SHARP Service Manual

GF-8080H
GF-8080E

MODEL
GF-8080H
GF-8080E

In the interests of user-safety the set should be restored to its original condition and only parts indentical to those specified be used.

SPECIFICATIONS

GENERAL

Type:	Portable stereophonic cassette tape recorder with built-in LW/MW/FM 3-band radio
Power source:	AC 110/220/240V, 50/60Hz(H) AC 240V, 50/60Hz (E) DC 9V (Six UM1/SUM1 batteries) DC 9V adapter jack
Power consumption:	18 watts (H)/15 watts (E)
Speaker:	10cm x 2
Power output:	MPO 8000mW (4000mW + 4000mW; AC operation). RMS power 4000mW (2000mW + 2000mW; DIN45 324, DC operation)
Semiconductors:	3-IC (Integrated Circuit), 36-transistor and 30-diode (1 Light Emitting Diode)
Dimensions:	368mm (W) x 110mm (D) x 210mm (H)
Weight:	4.1kg (without batteries)
Input terminals:	1 EXT. MIC. (J1-A, B) 2 Remote control (J1-D) 3 EXT. DC power, 9V (J2) 4 AC input power (SO1) 5 REC/PB socket, DIN (SO2)
Output terminals:	1 EXT. speaker, 4-ohm (J3, J4) 2 PHONES (J1-C) 3 REC/PB socket, DIN (SO2)

TAPE RECORDER SECTION

Type:	4-track stereo cassette tape recorder
Tape:	Philips type compact cassette tape
Tape speed:	4,8 cm/sec.
Recording system:	AC bias
Erasing system:	DC erasing
Recording time:	60 minutes (with C-60 tape)
Fast forward or rewind time:	100 sec. (with C-60 tape)
Frequency response:	40 ~ 15,000Hz (with CrO_2 tape)
Wow and flutter:	0.3% (DIN) (H)/0.15% (WRMS) (E)
S/N ratio:	45 dB

RADIO SECTION

Frequency range:	LW150 ~ 285kHz MW 520 ~ 1,620kHz FM 87.6 ~ 108MHz
Intermediate frequency:	LW/MW 455kHz FM 10.7MHz
Circuit system:	3-band superheterodyne system
Antenna:	LW/MW Ferrite core bar antenna FM Telescopic Antenna

SHARP CORPORATION OSAKA, JAPAN

CABINET DISASSEMBLY (Refer to Figure 1)

1. Pull out the power cord plug and adaptor plug from the unit.
2. Take out the cassette tape from the cassette compartment and six batteries from the battery compartment.
3. Remove the volume, tone, band and tuning knobs.
4. Remove six screws retaining the cabinet back and lightly open it.
5. Disconnect the tip connected to the tuner P.W. board, and two tips connected to the Mains supply P.W. board.
6. Remove seven screws retaining the cabinet front.

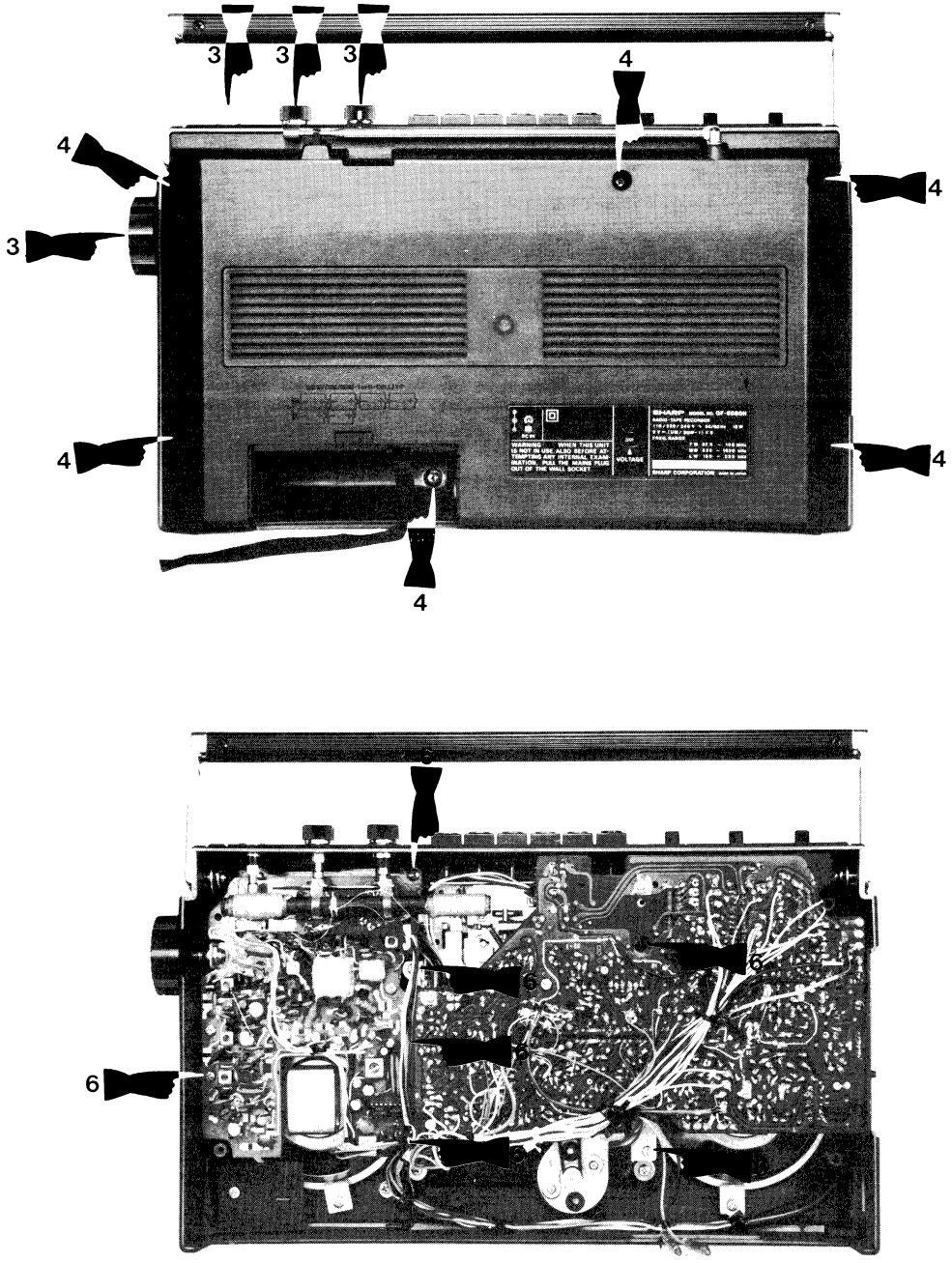


Figure 1 CABINET DISASSEMBLY

MECHANICAL ADJUSTEMNT

▪ FLYWHEEL THRUST CLEARANCE ADJUSTMENT

(Refer to Figure 2.)

Slowly tighten the screw for flywheel thrust clearance until the thrust clearance becomes 0 (zero) and loosen the screw by 1/4 turn from this point. Since screw's pitch is 0.8mm, thrust clearance of about 0.2mm is obtained.

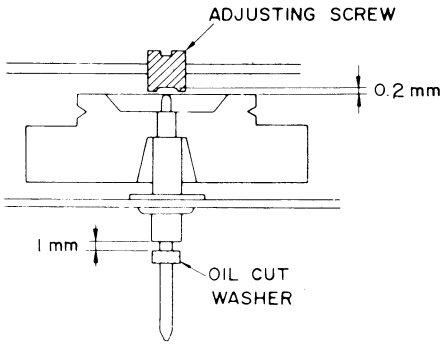
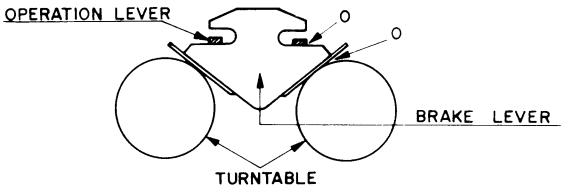


Figure 2

▪ BRAKE MECHANISM ADJUSTMENT

(Refer to Figure 3.)

1. Check that the brake lever is pressed against both turntables in STOP mode and that the brake lever is apart at the same distance from both turntables in PLAY, FAST FORWARD and REWIND modes.
2. Adjust it by bending the operation lever when the distance is abnormal.



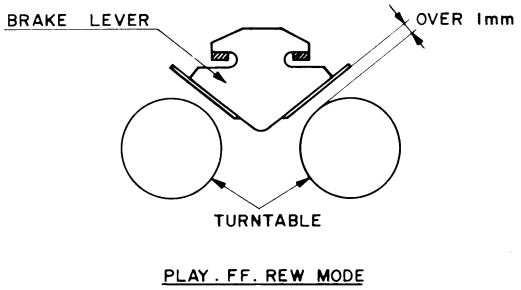


Figure 3

▪ PRESSURE ROLLER PRESSURE ADJUSTMENT

(Refer to Figure 4.)

1. Setting the unit in PLAY mode with power supply turned on, push the point A with use of tension gauge to make the pressure roller apart from the capstan shaft. Then, gradually release the tension gauge and read its value when the pressure roller starts to rotate.
2. It is normal when the tension gauge reads 310 – 410 gr. If the above value is not satisfied, adjust the pinch roller lever spring.

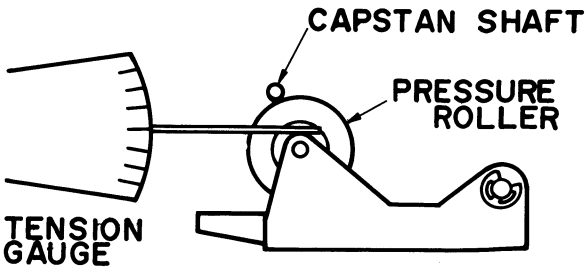


Figure 4

■ TAKE-UP PULLEY PRESSURE ADJUSTMENT

(Refer to Figure 5.)

1. With power supply turned on, push the PLAY push-button.
2. Hook the tension gauge at the end of slip roller lever and pull the tension gauge to make the take-up pulley apart from the take-up turntable. Then gradually release the tension gauge and read its value when the take-up turntable starts to rotate.
3. It is normal when the tension gauge reads 30 – 60 gr. If the above value is not satisfied, change the setting position of slip roller lever spring.

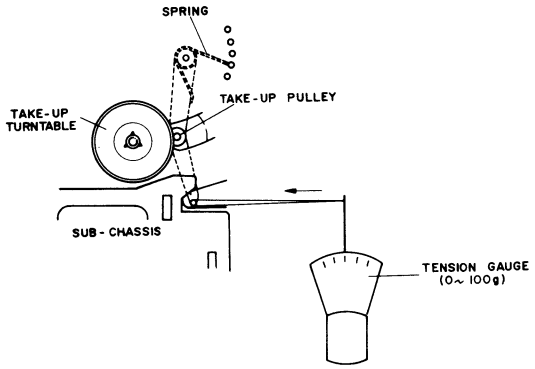


Figure 5

■ TORQUE CHECK IN PLAY MODE

(Refer to Figure 6.)

1. Set the torque measuring reel to the take-up turntable and hook the tension gauge at measuring point of reel.
2. Put the unit in PLAY mode with power supply turned on.
3. Then, rotate the measuring reel in the same direction as for turntable and read the torque value when the pointer is stabilized.
4. The take-up torque should be 40 – 60 gr·cm.

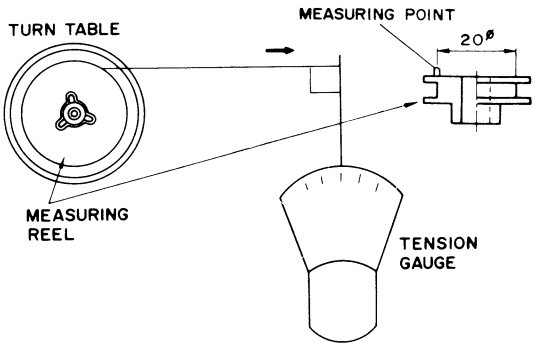


Figure 6

■ MAIN SWITCH (SW8) SETTING POSITION ADJUSTMENT

(Refer to Figure 7.)

Place the mechanism in stop mode and use the main switch retaining screws to adjust the position so that the clearance between the main switch (SW8) and brake connecting lever becomes 0.3mm to 0.5mm.

Next place the mechanism in playback mode and make sure the main switch is made turned on.

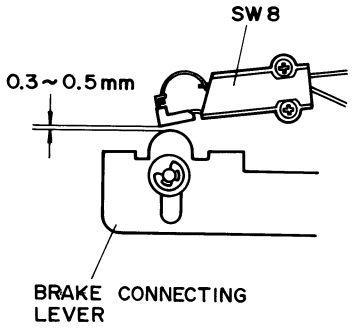


Figure 7

■ PLAYBACK SWITCH (SW11) SETTING POSITION ADJUSTMENT

(Refer to Figure 8.)

Place the mechanism in APSS mode (by depressing the play key and APSS key) and use the playback switch retaining screw to adjust the position so that the clearance between the playback switch (SW11) and sub-chassis becomes 0.5mm.

Next place the mechanism in playback mode and make sure the playback switch is made turned on.

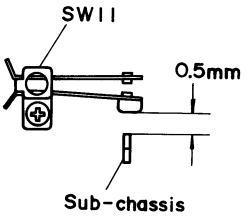


Figure 8

■ PAUSE SWITCH (SW10) SETTING POSITION ADJUSTMENT

(Refer to Figure 9.)

Place the mechanism in stop mode and use the pause switch retaining screw to adjust the position so that the clearance between the pause switch (SW10) and push button lever becomes 0.5mm.

Next place the mechanism in pause mode and make sure the pause switch is made turned on.

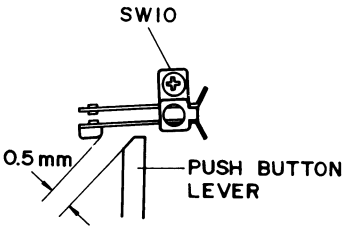


Figure 9

- **APSS SWITCH (SW9) SETTING POSITION ADJUSTMENT**

  (Refer to Figure 10.)

  Place the mechanism in playback mode and use the APSS switch retaining screw to adjust the position so that the clearance between the APSS switch (SW9) and APSS switch lever becomes 0.5mm.

  Next place the mechanism in APSS mode and make sure the APSS switch is made turned on.

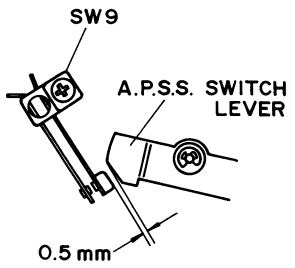


Figure 10

- **SOLENOID (SOL301) SETTING POSITION ADJUSTMENT**

  (Refer to Figure 11.)

  Place the mechanism in fast forward mode (by depressing the ◄◄ key), push the core of solenoid and use the solenoid retaining screws to adjust the position so that the clearance between the release lever and solenoid becomes 3.6mm. After check the mechanism is normally changed to playback mode from APSS mode.

  Next make sure the mechanism is changed to stop mode by the solenoid from playback, fast forward or rewind mode when the tape comes to the end.

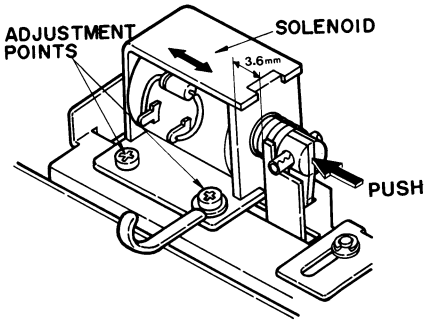


Figure 11

ELECTRICAL MEASUREMENT

* This unit operaters on DC 9V. Check that the power supply is exactly 9V before measurement.
* Set the FUNCTION switch (SW3) to "TAPE" position.

- **RECORD OSCILLATOR BIAS FREQUENCY AND BIAS CURRENT ADJUSTMENT**
  (Refer to Figure 12.)
  1. Place the unit in RECORD mode.
  2. Connect the VTVM across the 100 ohm resistor (R103, R106).
  3. Rotate the variable resistor (VR101) to the position where the resistance value becomes the minimum.
  4. Adjust the variable resistor (VR102) so that the VTVM reads the same value for the right channel (R106) and left channel (R103).
  5. Adjust the variable resistor (VR101) so that the VTVM reads 50mV for the right channel (R106) and left channel (R103) respectively.
  6. Make sure the record oscillator bias frequency is 53 ±3kHz.

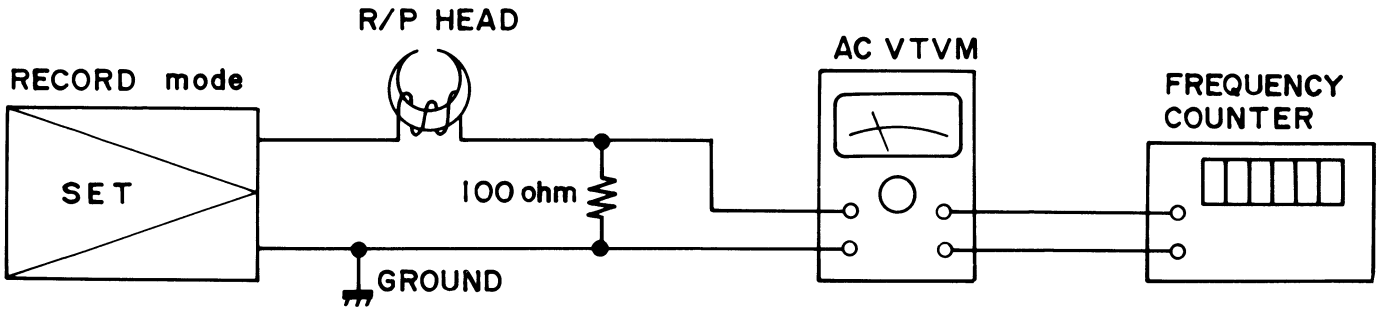


Figure 12

- **RECORD SENSITIVITY CHECK**
  (Refer to Figure 13.)
  1. Place the unit in RECORD mode.
  2. Connect the VTVM across the 100 ohm resistor (R103, R106).
  3. Short circuit the primary coil of the Oscillator coil (L104) to stop bias oscillation.
  4. Connect the audio signal generator for 1,000Hz, −78dB (0dB = 1V) to the MIC jacks (J1A, J1B).
  5. If the record amplifier sensitivity is normal, the reading on VTVM should be approximately 1.75mV.

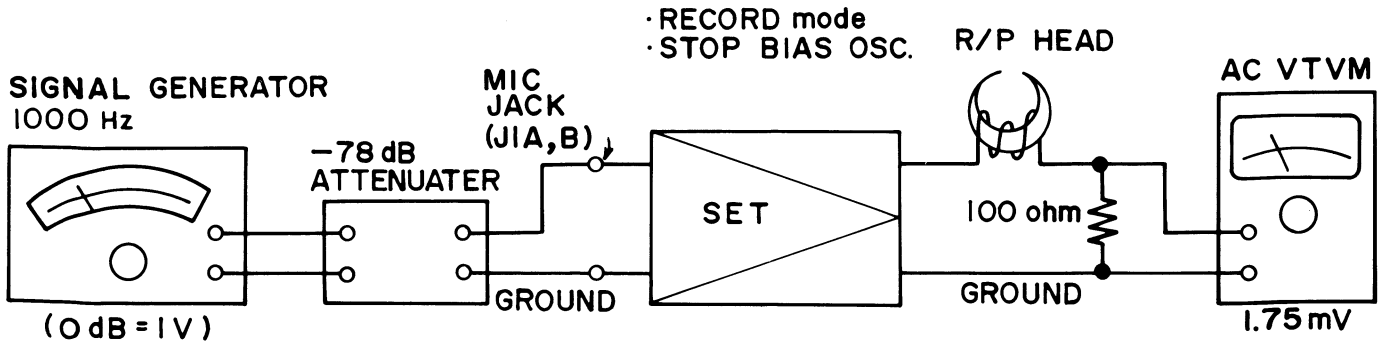


Figure 13

- **PLAYBACK AMPLIFIER SENSITIVITY CHECK**
  (Refer to Figure 14.)
  1. Place the unit in PLAYBACK mode with the VOLUME Controls (VR201A, VR201B) at maximum.
  2. Rotate the TONE Control (VR202A, VR202B) to "HIGH" position.
  3. Connect the VTVM to the PHONES jack (JIC).
  4. Connect the audio signal generator for 1,000Hz, −80dB (0dB = 1V) across the ground lead (Red) of the Record/Playback Head.
  5. If the playback amplifier sensitivity is normal, the reading on the VTVM should be approximately 1V.

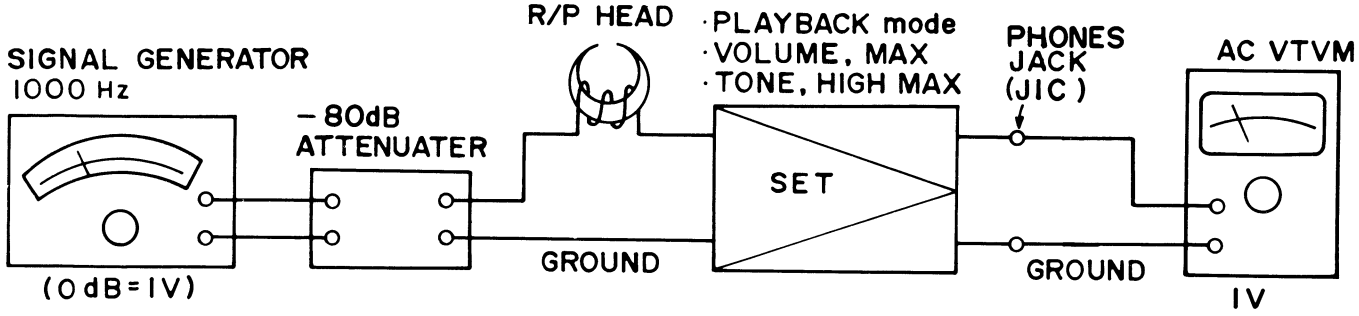


Figure 14

- **ERASE CURRENT CHECK**
  (Refer to Figure 15.)
  1. Place the unit in RECORD mode.
  2. Connect the DC Ammeter to the ground lead of the erase head. If the erase current is normal, the Ammeter should be show 9 – 13mA.

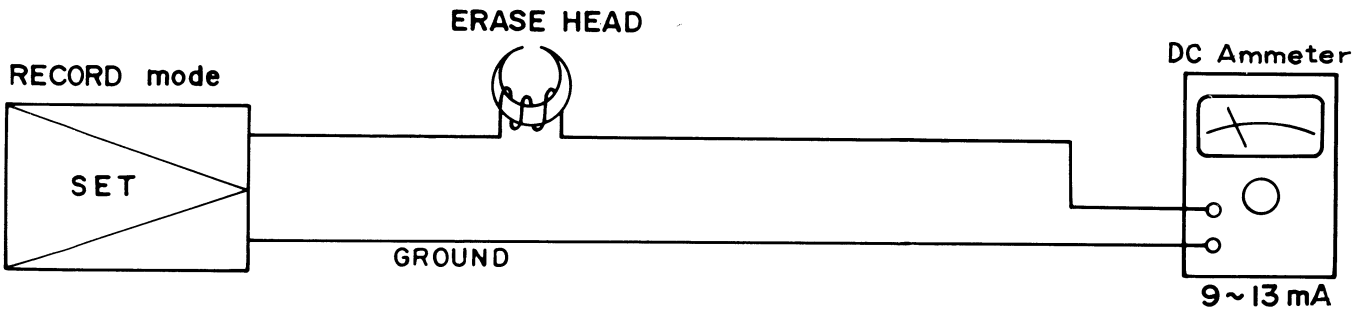


Figure 15

- **RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT**
  (Refer to Figure 16.)
  1. Insert the test tape (MTT-114, 10kHz Recorded).
  2. Set MODE switch (SW5) in the STEREO position.
  3. Place the unit in PLAYBACK mode with the VOLUME Controls (VR201A, VR201B) at maximum.
  4. Rotate the TONE Control (VR202A, VR202B) to "HIGH" position.
  5. Connect the VTVM to the PHONES jack (J1C).
  6. Adjust the head azimuth adjusting screw so that the playback output voltage of the test tape becomes maximum in the sides and the phase between channels gets same.

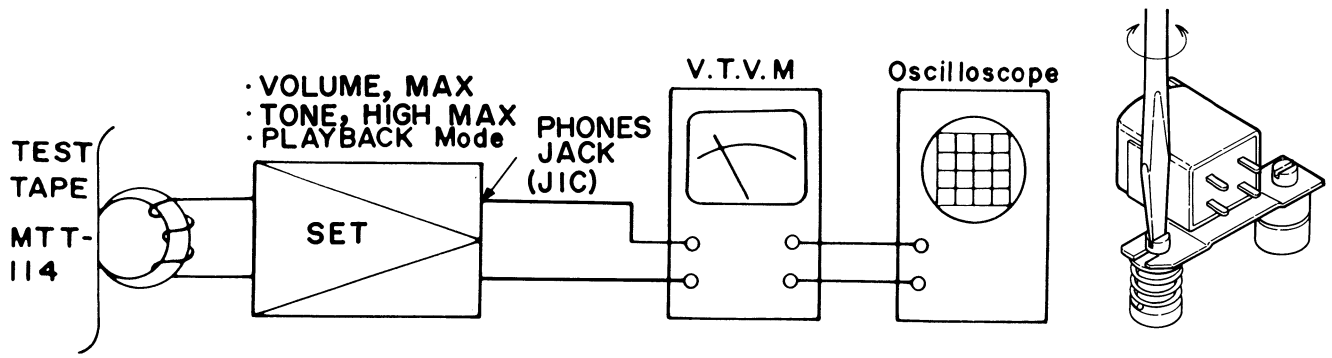


Figure 16

GENERAL ALIGNMENT INSTRUCTION

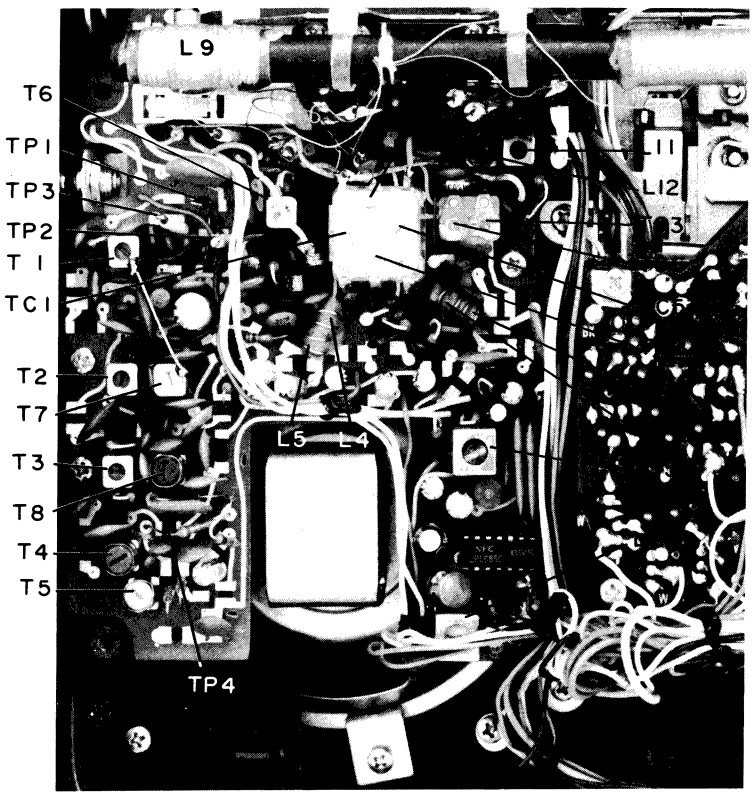


Figure 17

Should it become necessary at any time to check the alignment of this receiver, proceed as follows;

1. Connect an output meter across the speaker voice coil lugs.
2. Set the volume control to maximum.
3. Attenuate the signals from the generator enough to swing the most sensitive range of the output meter.
4. Use a non-metallic alignment tool.
5. Repeat adjustments to insure good results.
6. Set the FUNCTION switch (SW3-A ~ H) to "RADIO" position.

AM IF ALIGNMENT CHART (LW, MW)

Set the BAND Switch (SW1 A ~ J) to "MW" position.

STEP	TEST STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
		CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	IF	Connect signal generator through a 10K ohm resistor to the antenna tuning capacitor (VC3). Ground lead to the receiver chassis.	Exactly 455 kHz. (400Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Adjust for maximum output on speaker voice coil lugs.	T6 (Yellow) T7 (White) T8 (Black)
		Repeat until no further improvement can be made.				

AM RF ALIGNMENT CHART (LW, MW)

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
			CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	MW	Band Coverage	Use radiating loop. Loop of several turns of wire, or place generator lead close to receiver for adequate signal pickup. Connect generator output to one end of this wire.	Exactly 510 kHz. (400Hz, 30%, AM modulated)	Low end of dial. (maximum capacity).	Adjust for maximum output on speaker voice coil lugs.	Adjust the MW oscillator coil (L11).
2	MW		Same as step 1.	Exactly 1650 kHz. (400Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Same as step 1.	Adjust the MW oscillator trimmer (TC5).
3	MW	Tracking	Same as step 1.	Exactly 600kHz. (400Hz, 30%, AM modulated)	600 kHz.	Same as step 1.	Adjust the MW antenna coil (L10). (See NOTE A)
4	MW		Same as step 1.	Exactly 1400 kHz. (400Hz, 30%, AM modulated)	1400 kHz.	Same as step 1.	Adjust the MW antenna trimmer (TC4). (See NOTE A)
5	MW	Repeat steps 1, 2, 3 and 4 until no further improvement can be made.					
6	LW	Band Coverage	Same as step 1.	Exactly 145kHz. (400Hz, 30%, AM modulated)	Low end of dial. (maximum capacity)	Same as step 1.	Adjust the LW oscillator coil (L12).
7	LW		Same as step 1.	Exactly 295kHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Same as step 1.	Adjust the LW oscillator trimmer (TC6).
8	LW	Tracking	Same as step 1.	Exactly 160kHz. (400Hz, 30%, AM modulated)	160kHz.	Same as step 1.	Adjust the LW antenna coil (L9).
9	LW		Same as step 1.	Exactly 260kHz. (400Hz, 30%, AM modulated)	260kHz.	Same as step 1.	Adjust the LW antenna trimmer (TC3).
10	LW	Repeat steps 6, 7, 8 and 9 until no further improvement can be made.					

NOTE A

Check the alignment of the receiver antenna coil by bringing a piece of ferrite (such as a coil slug) near the antenna loop stick, then a piece of brass. If ferrite increases output, loop requires more inductance. If brass increases output, loop requires less inductance. Change loop inductance by sliding the bobbin toward the center of ferrite core to increase inductance, or away to decrease inductance.

FM ALIGNMENT CHART

Set the BAND Switch (SW1- A ~ J) to "FM" position.

STEP	TEST STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
		CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	IF	Connect signal generator through a 5PF capacitor to test point TP-3 Connect generator ground lead to the point TP2	Exactly 10.7 MHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Connect VTVM (AC) between test point TP-4 and chassis ground.	Detune T5 (Orange). Tune T1 (Violet), T2 (Violet), T3 (Violet) and T4 (Green) for maximum indication.
2	Ratio Detector	Same as step 1.	Exactly 10.7 MHz. (Unmodulated)	Same as step 1.	See NOTE B.	See NOTE B.
3	Band Coverage	Connect signal generator through a dummy, including output impedance of signal generator to the FM antenna (TP1) . (Refer to Figure 18) Ground lead of generator connected to the receiver chassis. (TP2) .	Exactly 87.1 MHz (400 Hz, 30%, FM modulated)	Low end of dial. (maximum capacity)	Adjust for maximum output speaker voice coil lugs.	Adjust the FM oscillator coil (L7, L8).
4		Same as step 3.	Exactly 109 MHz. (400 Hz, 30%, FM modulated)	High end of dial. (minimum capacity)	Same as step 3.	Adjust the FM oscillator trimmer (TC2).
5	Tracking	Same as step 3.	Exactly 88 MHz. (400 Hz 30%, FM modulated)	88 MHz	Same as step 3.	Adjust the FM RF coil (L4, L5).
6		Same as step 3.	Exactly 108 MHz. (400 Hz, 30%, FM modulated)	108 MHz	Same as step 3.	Adjust the FM RF trimmer (TC1).
7		Repeat steps 3, 4, 5 and 6 until no further improvement can be made.				

NOTE B

1. Connect VTVM (0.1 volts range DC scale) between test point TP4 and chassis ground.
2. Adjust T5 (Orange) for 0 volts reading on VTVM.
3. Change signal generator frequency 10.7MHz + 100kHz and – 100kHz approximately.
4. Adjust T4 (Green) for balanced peaks.

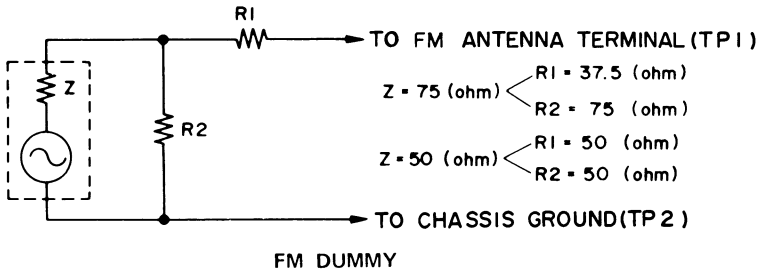


Figure 18

FM MPX ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
	CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	Connect signal generator through a dummy, including output impedance of signal generator to the FM antenna (TP 1) . (Refer to Figure 18) Ground lead of generator connected to the receiver chassis (TP 2) .	Exactly 98 MHz (54dB). 6 kHz Frequency modulation. Channel Right only.	98 MHz	Adjust for minimum output speaker voice coil lugs. (Channel Left)	Adjust the MPX coils (L14, L15)
2	Same as step 1.	Exactly 98 MHz (54dB). 6 kHz Frequency modulation. Channel Left only.	98 MHz	Adjust for minimum output speaker voice coil lugs. (Channel Right)	Same as step 1.
3	Repeat steps 1 and 2 until no further improvement can be made.				

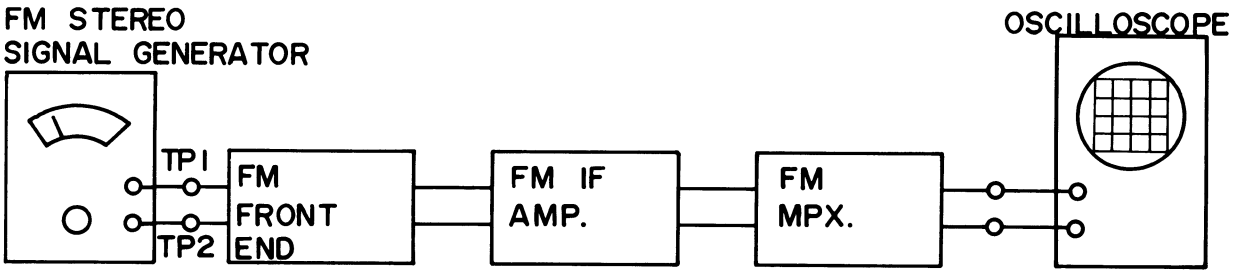


Figure 19

CIRCUIT DESCRIPTION OF APSS

APSS is an abbreviation of Auto Program Search System uniquely developed by SHARP, which can automatically detect the starting position of each program.
With the APSS system, if the fast forward button or rewind button is depressed during playback mode, the tape is fast forwarded to the starting position of the next program (the end position of the previous program) and then the fast forward button or rewind button is automatically released to make the mechanism be put in playback mode.

OUTLINE OF APSS

- **MIXER AMP.**
  This amplifier consists of Q105 and serves to mix equalizer amplifier outputs of right and left channels.

- **LIMITER AMP.**
  This amplifier is composed of Q301 and Q302 and serves to amplify the output of mixer amplifier to the level where the APSS starts to operation.

- **VOLTAGE DOUBLING RECTIFIER CIRCUIT**
  This voltage doubling rectifier circuit is composed of D301 and D302.

- **TIME CONSTANT CIRCUIT**
  This time constant circuit is composed of R308 and C304.

- **LEVEL COMPARISON CIRCUIT**
  This level comparison circuit is composed of Q303 and Q304. With this level comparison circuit of which the function is based on switching characteristic of transistors, the rectifying voltage, which has been produced by the voltage doubling rectifier circuit and time constant circuit, is used to be input to the base of Q303.

- **PLUNGER CONTROLLED CIRCUIT**
  This plunger controlled circuit is composed of Q305 and Q307. The Q305 is a differential circuit to utilize the signal coming from the level comparison circuit to initiate the plunger only at the breaking time.
  The Q307 uses the signal coming from the differential circuit to cause switching of the plunger.

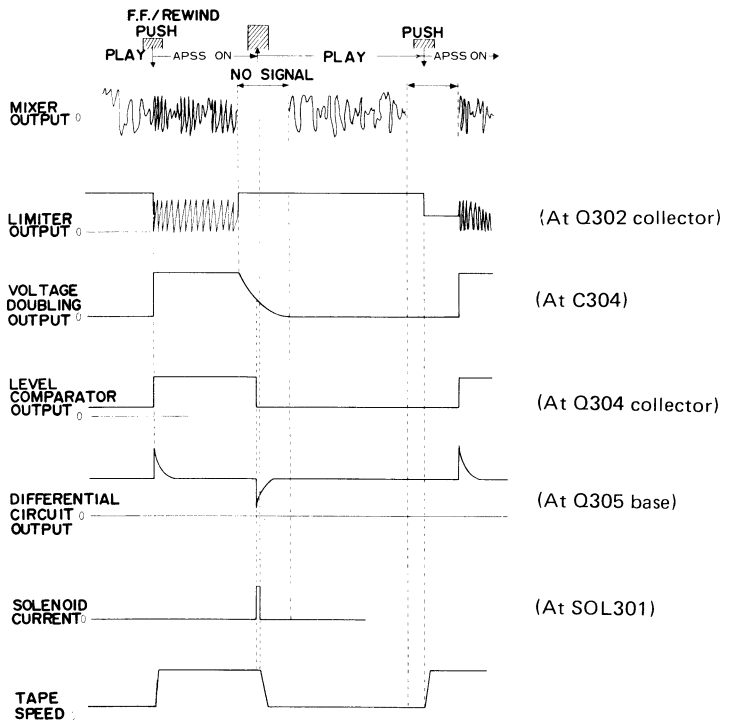


Figure 20

FUNCTION OF APSS

The following are detailed functions of the system. During playback mode, signals amplified by the transistors (Q101, Q102, Q103, Q104) enter the mixer amplifier (Q105). The outputs of Q105 is amplified and limited by the transistors (Q301, Q302) and the outputs of Q302 is rectified by the diodes (D301 and D302).
The output of D301 is level compared by the transistors (Q303 and Q304) and current runs in the base of Q305, turning on. With Q305 turned on, the current runs in the base Q307.
At this time, current runs in the plunger to make it be attracted and the mechanism is changed to playback mode from APSS mode.

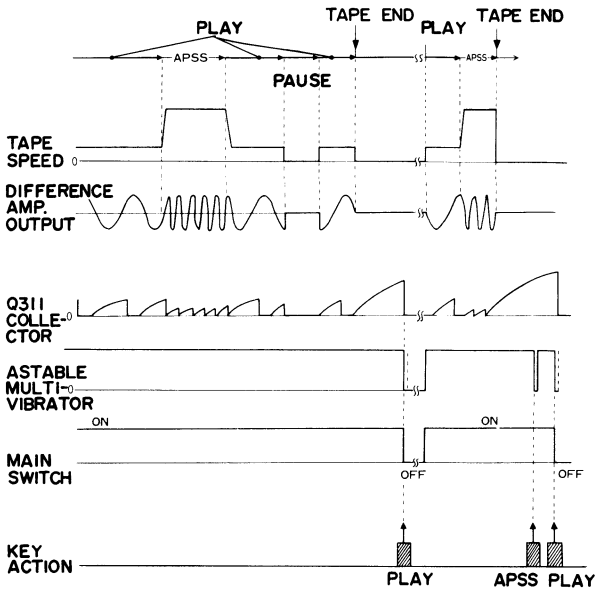


Figure 21

FUNCTIONS OF AUTO STOP SYSTEM

Auto stop mechanism adopted for this unit depends upon the combination of the magnet located at the counter shaft and hall element to detect variations of the related magnetic field. If the magnet attached to the counter shaft rotates (in playback mode, fast forward made, rewind mode, record mode or APSS mode), the Hall element is due to detect variations of the magnetic field and related signal is output from the difference amplifier consisting of Q309 and Q310. The signal coming from the differential amplifier is applied to the base of Q311 and then saw tooth wave-like signal is output from the collector of Q311.
When, contrary to the above, the magnet fixed to the counter shaft stops to rotate, no variations of the magnetic field is caused for the Hall element. Then the collector voltage of Q311 increases and the astable multivibrator composed of Q312 and Q313 starts to function. And the output signal of the emitter of Q313 is applied to the base of Q307, causing current to run in the plunger to make it be attracted. Thus the mechanism is changed to stop mode from playback, fast forward, rewind mode, record mode or APSS mode.

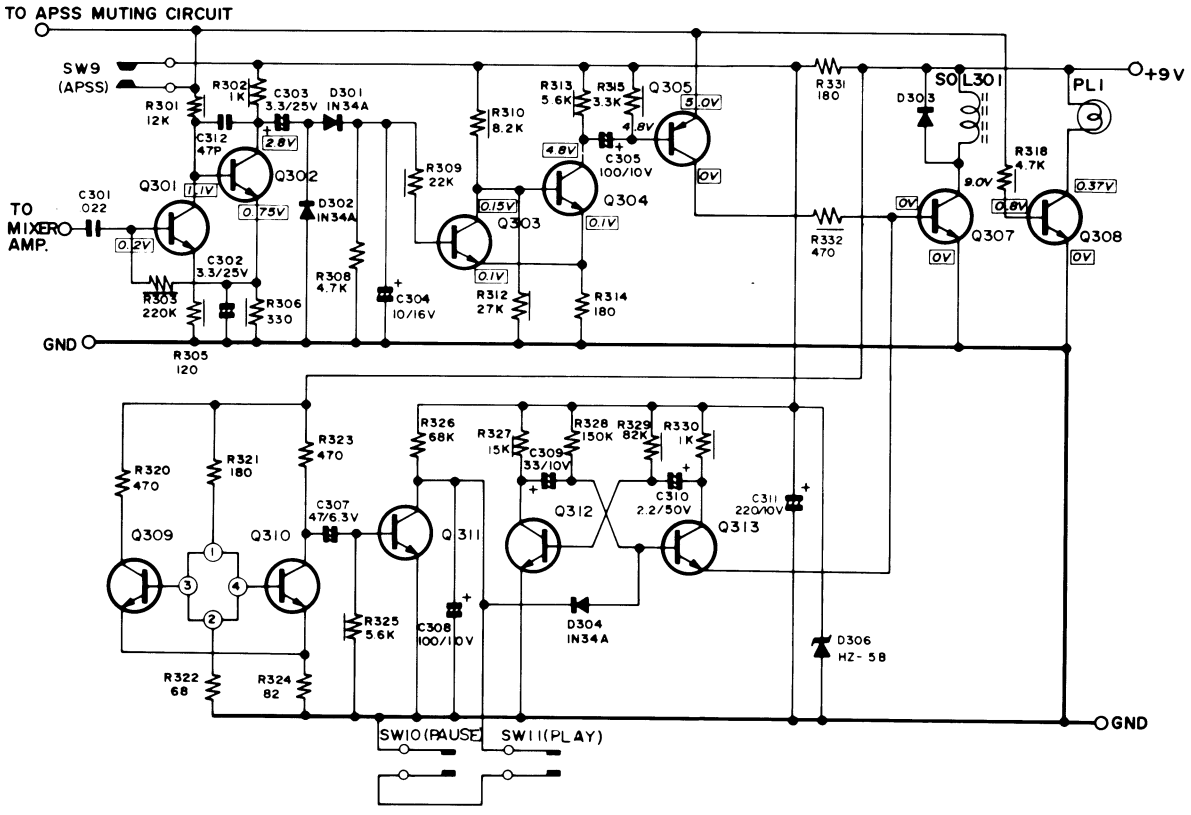


Figure 22

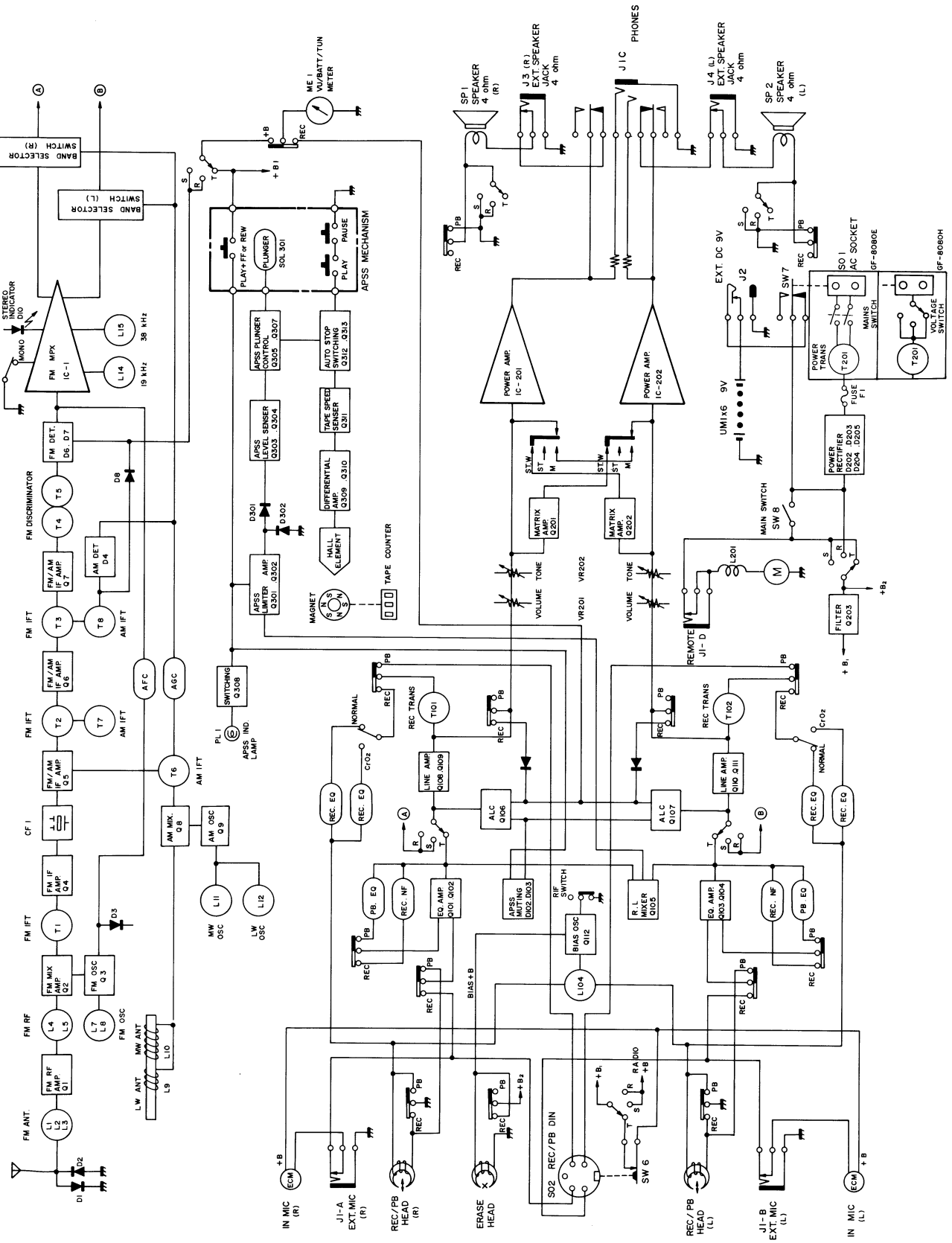
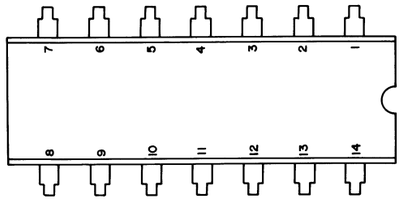


Figure 23 BLOCK DIAGRAM

IC1 RH-IX1021AFZZ



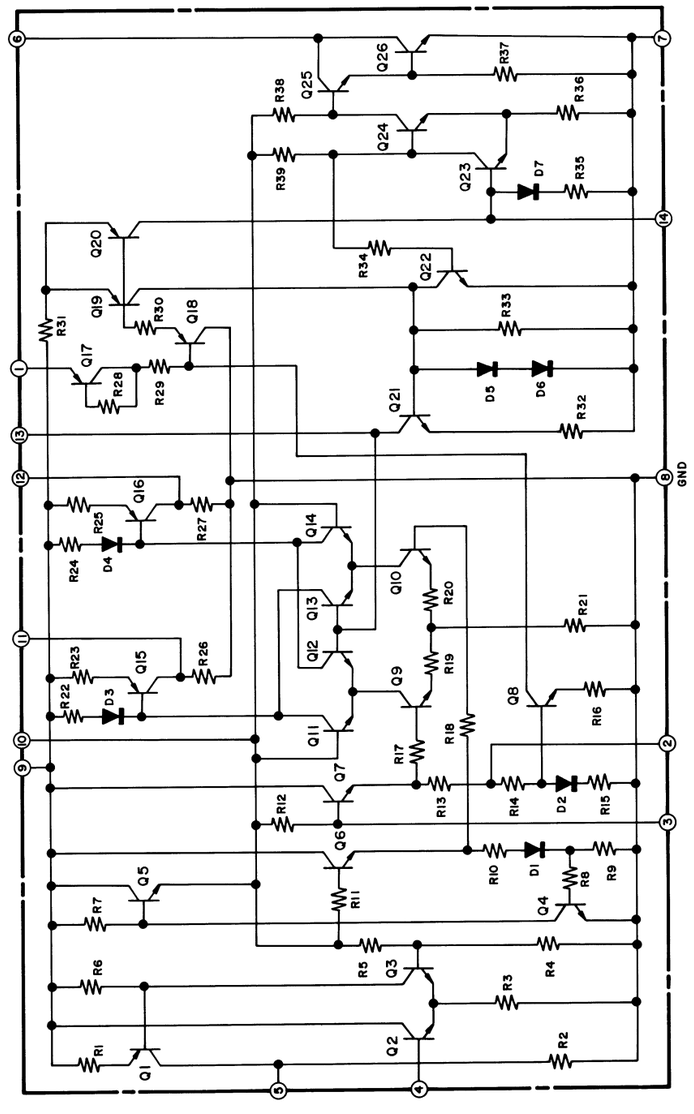
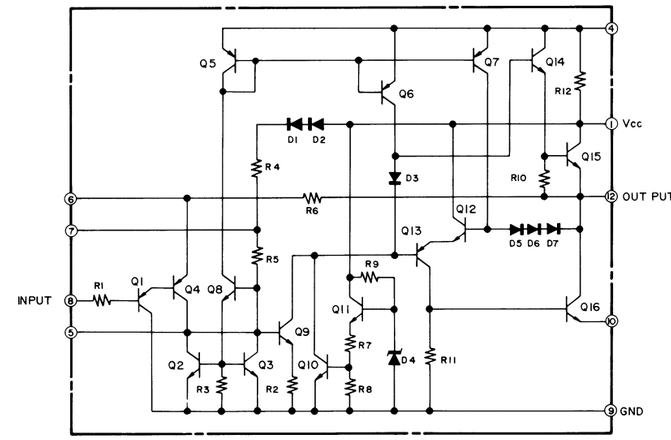


Figure 24 EQUIVALENT CIRCUIT



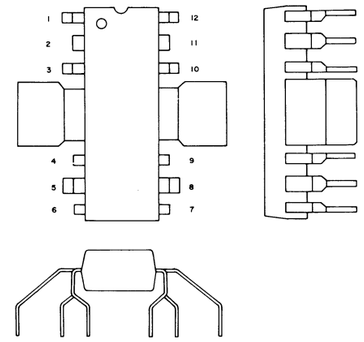


Figure 25 EQUIVALENT CIRCUIT

DIAL CORD STRINGING

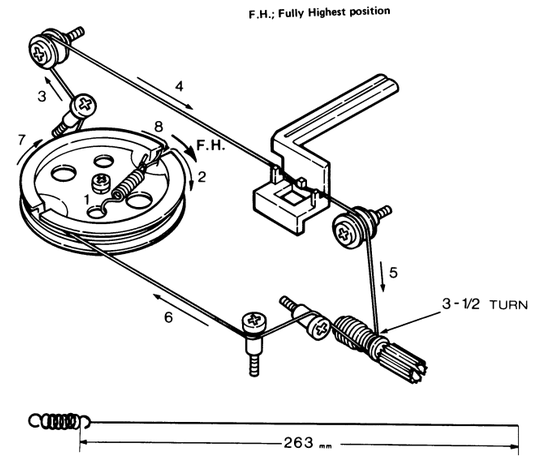
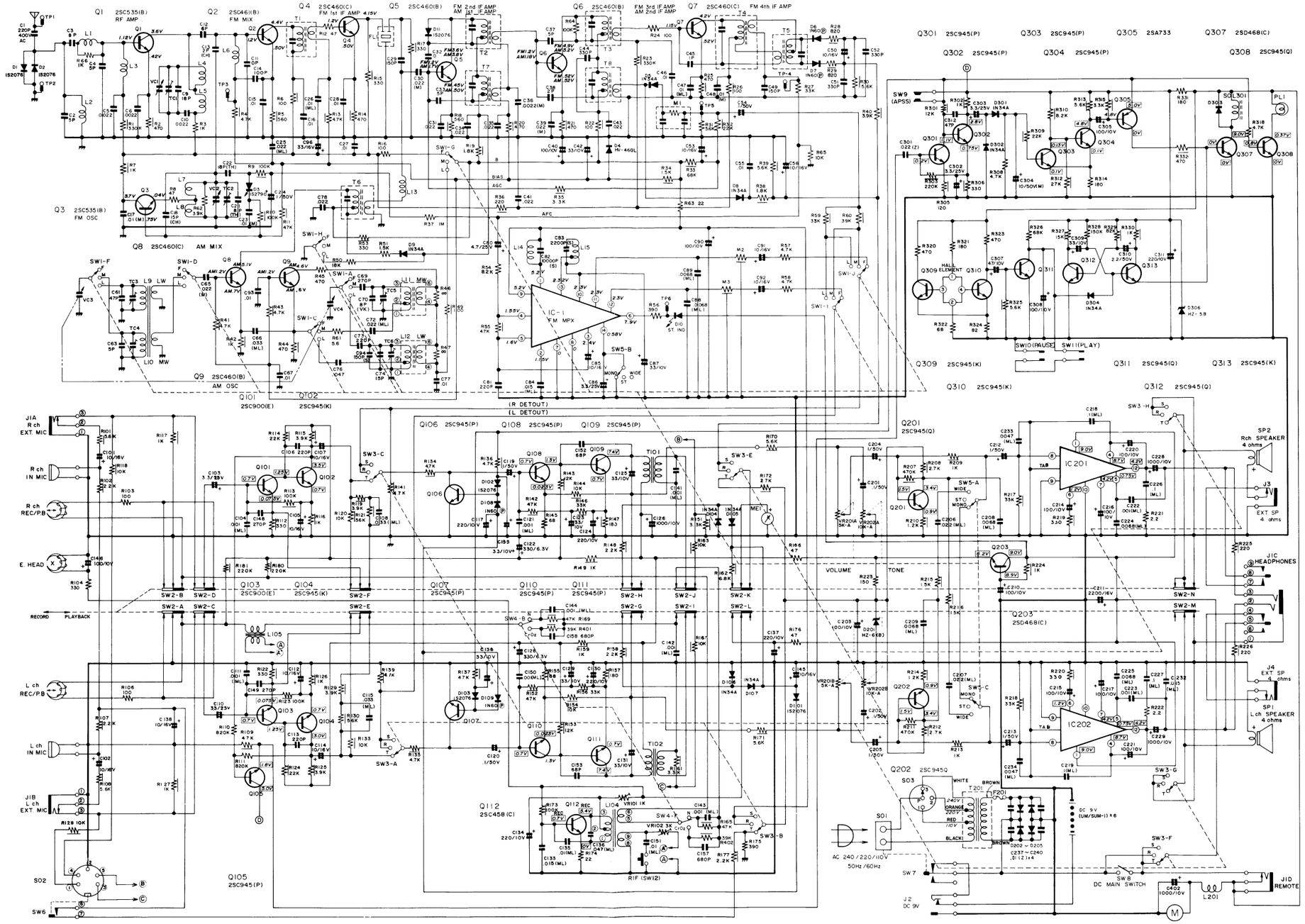
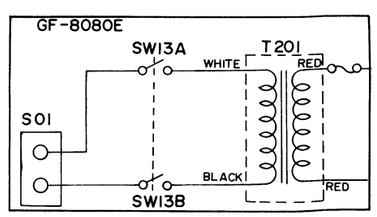


Figure 26 DIAL CORD STRINGING



NOTES

1) FREQUENCY RANGE MW 525 ~ 1605kHz
   LW 150 ~ 285kHz
   FM 87.6 ~ 108MHz
2) IF MW/LW 455kHz, FM 10.7MHz
3) CAPACITANCE VALUES ARE IN MFD P = MMFD
4) RESISTANCE VALUES ARE IN OHM K = 1000
5) SW1-A ~ J: BAND SWITCH (L: LW, M: MW, F: FM) AT "FM" POSITION.
6) SW2-A ~ N: RECORD/PLAYBACK SWITCH AT "PLAYBACK" POSITION.
7) SW3-A ~ H: FUNCTION (S: SLEEP, R: RADIO, T: TAPE) SWITCH AT "TAPE" POSITION.
8) SW4-B,F: TAPE (N: NORMAL, CrO_2: CHROME DIOXIDE) SWITCH AT "NORMAL" POSITION.
9) SW5-A ~ C: MODE (MONO: MONO, ST: STEREO, WIDE: ST. WIDE) SWITCH AT "MONO" POSITION.
10) SW6: BUILT-IN MIC. ON-OFF SWITCH.
11) SW7: AC-DC SELECTOR SWITCH
12) SW8: MAIN SWITCH.
13) SW9: APSS SWITCH.
14) SW10: PAUSE SWITCH.
15) SW11: PLAYBACK SWITCH.
16) SW12: RIF SWITCH.
17) SW13: MAINS SWITCH. (E)



(Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.)

Figure 27 SCHEMATIC DIAGRAM

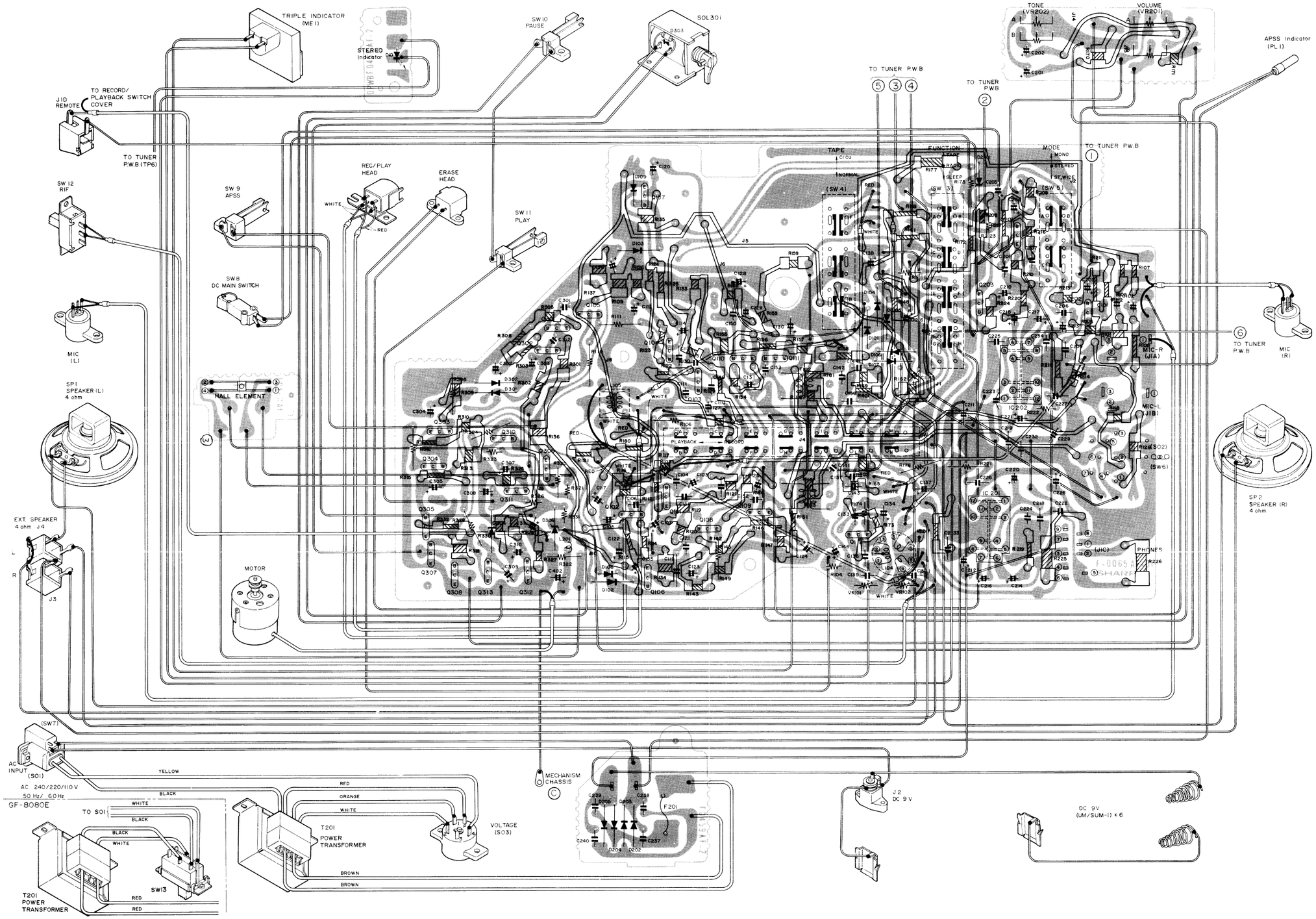


Figure 28 WIRING SIDE OF AUDIO P.W.BOARD

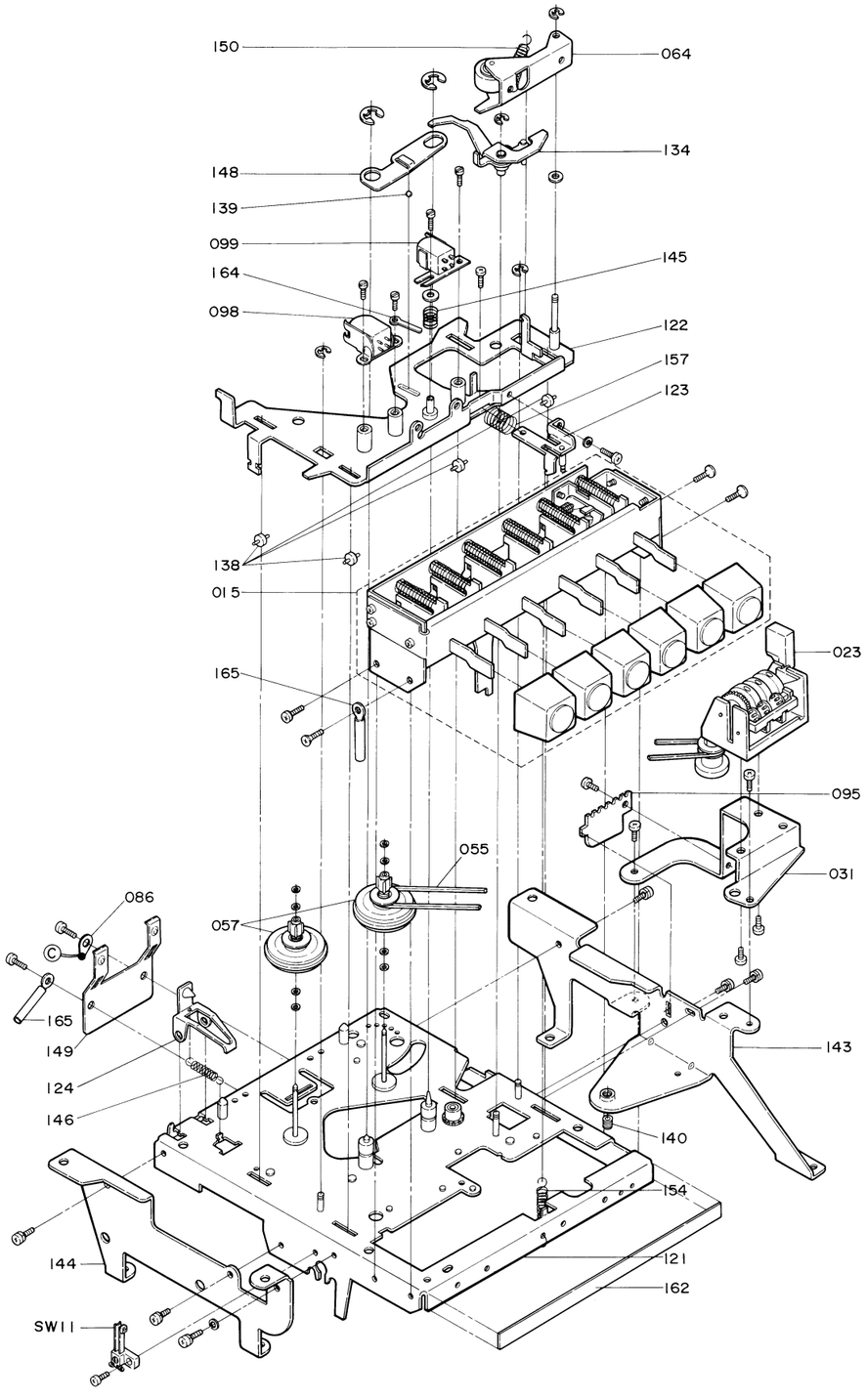
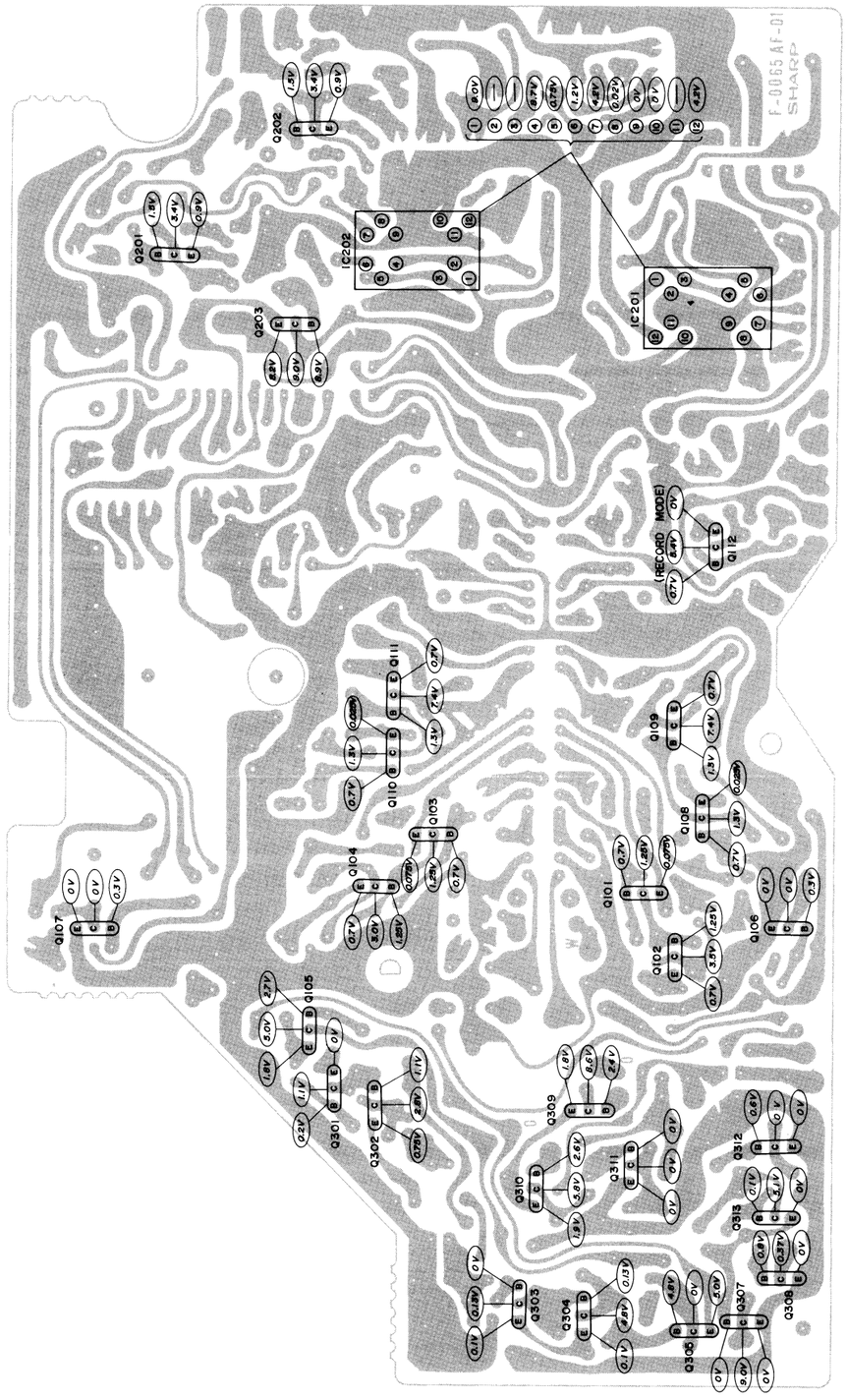
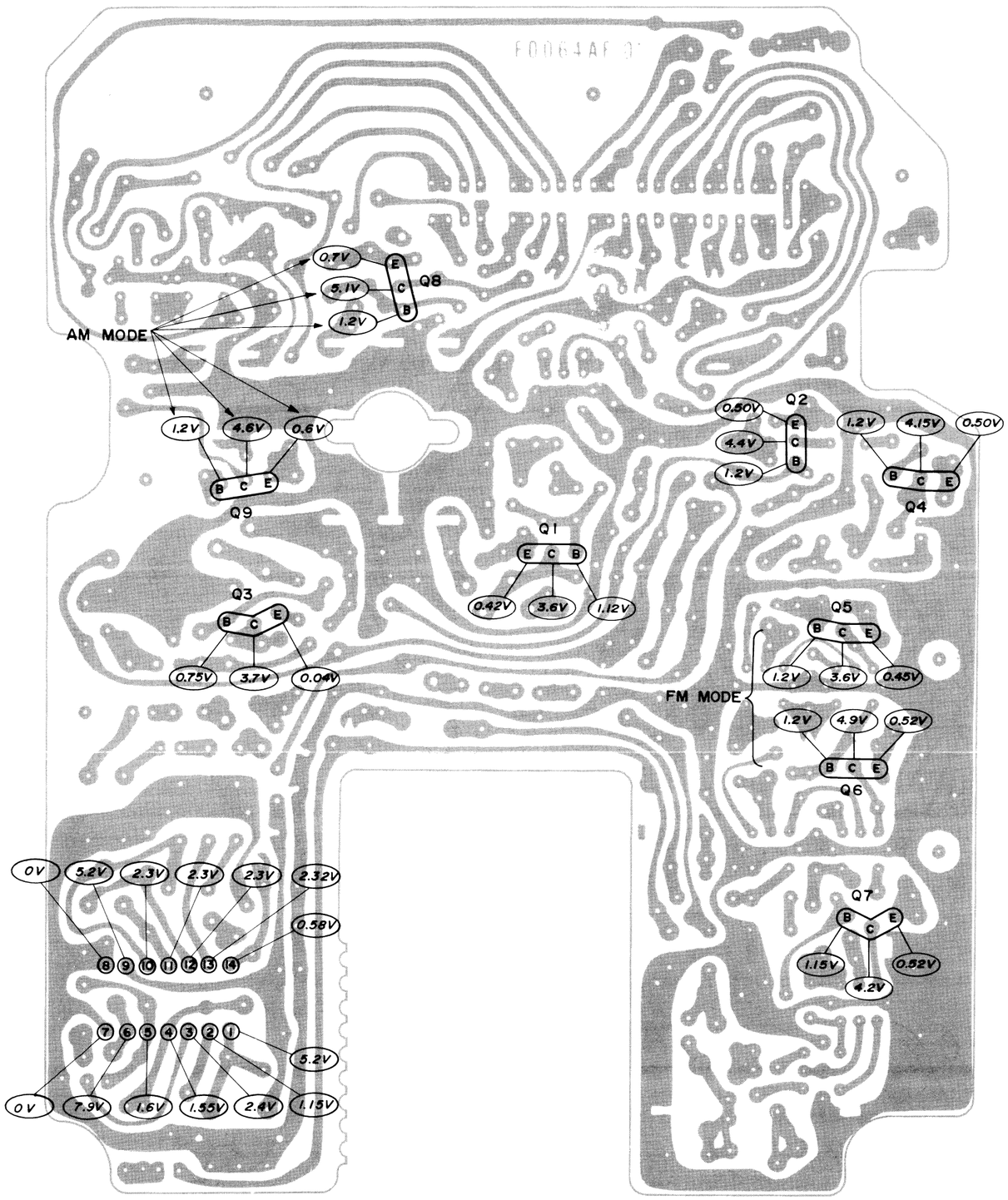


Figure 29 MECHANISM EXPLODED TOP VIEW



Note ; ICs and Transistors voltage shows in playback mode.

Figure 30



Note ; IC and Transistors voltage shows in FM mode.

Figure 31

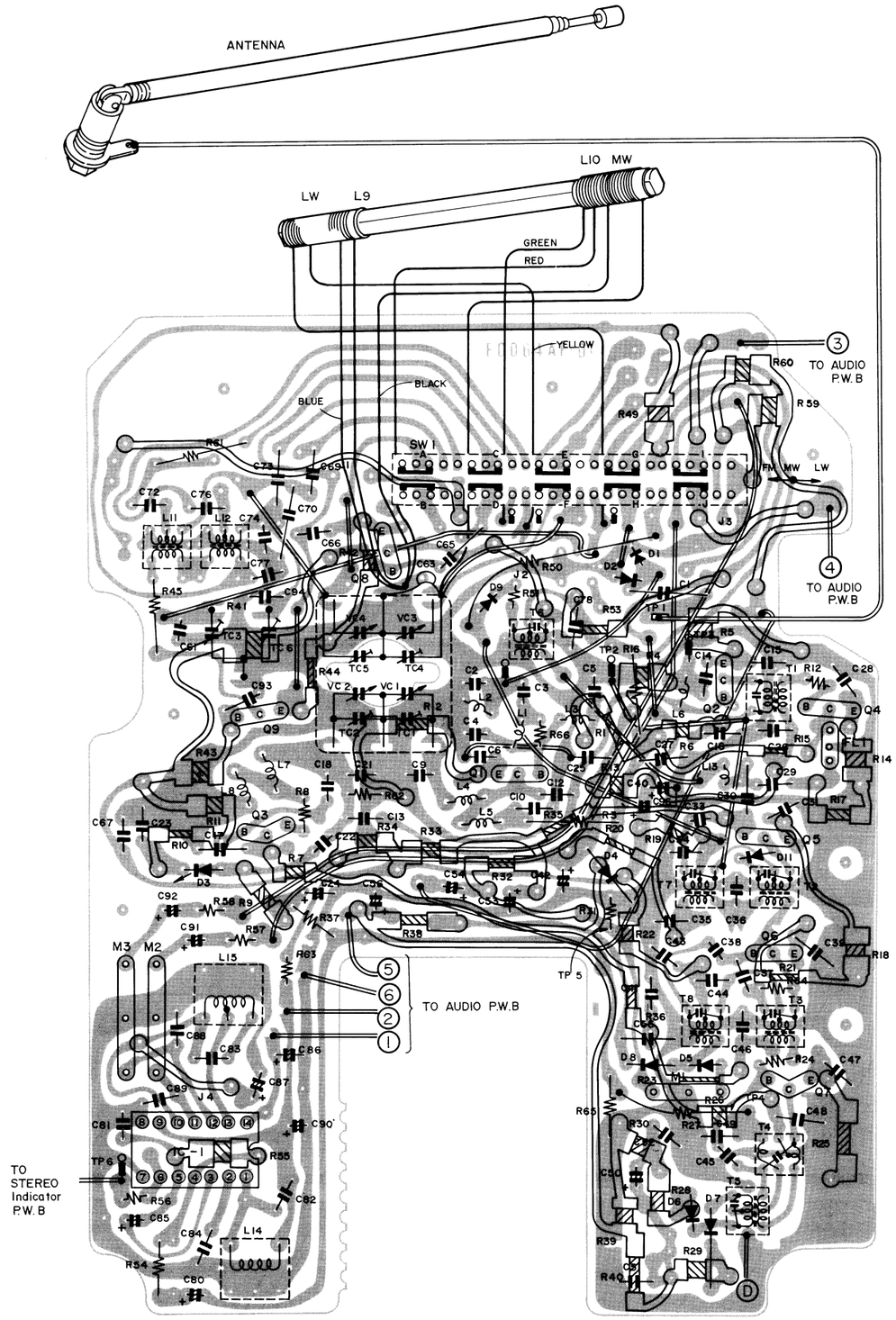


Figure 32 WIRING SIDE OF TUNER P.W.BOARD

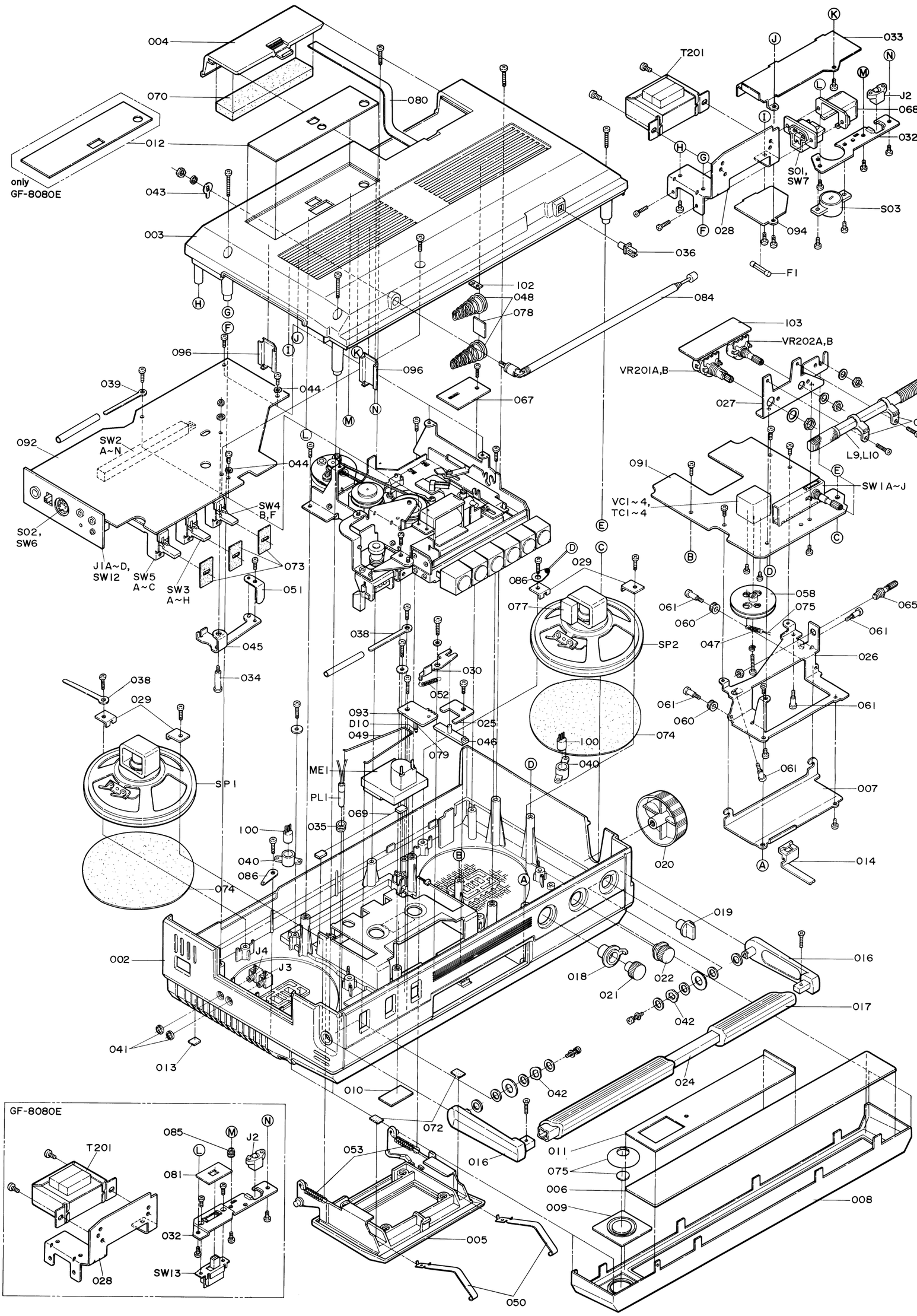


Figure 33 CABINET EXPLODED VIEW

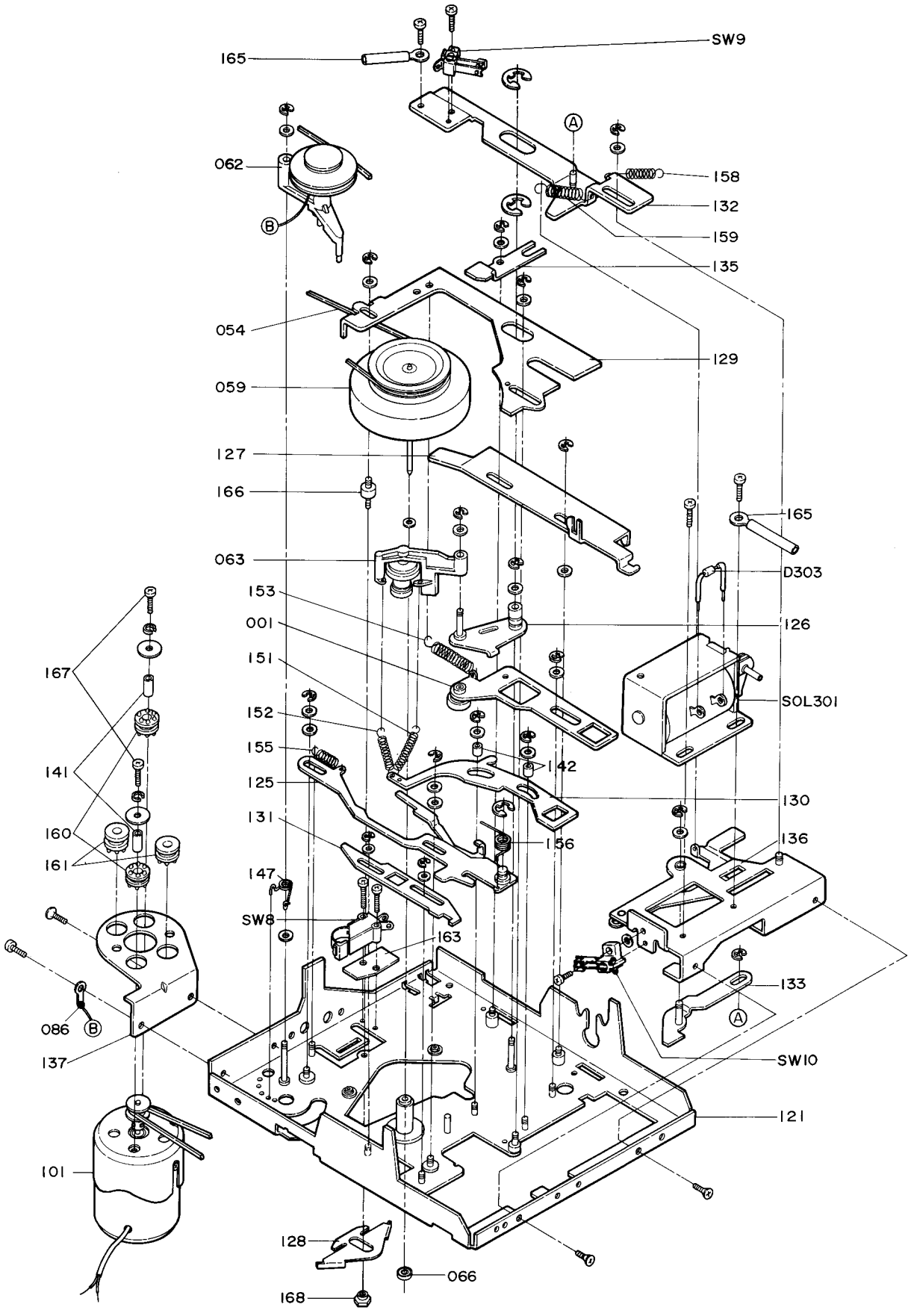


Figure 34 MECHANISM EXPLODED BOTTOM VIEW

REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

REF. NO.	PART NO.	DESCRIPTION	CODE
	TRANSISTORS		
Q1	VS2SC535-B/-1	FM RF Amplifier	AG
Q2	VS2SC461-B/-1	FM Mixer	AF
Q3	VS2SC535-B/-1	FM Oscillator	AG
Q4	VS2SC460-C/-1	1st FM IF Amplifier	AF
Q5	VS2SC460-B/-1	2nd FM IF Amplifier	AF
Q6	VS2SC460-B/-1	3rd FM IF Amplifier	AF
Q7	VS2SC460-C/-1	4th FM IF Amplifier	AF
Q8	VS2SC460-C/-1	AM Mixer	AF
Q9	VS2SC460-B/-1	AM Oscillator	AF
Q101	VS2SC900-E/-1	Equalizer Amp.	AD
Q102	VS2SC945-K/-1	Equalizer Amp.	AD
Q103	VS2SC900-E/-1	Equalizer Amp.	AD
Q104	VS2SC945-K/-1	Equalizer Amp.	AD
Q105	VS2SC945LP/-1	APSS Signal Mixer	AC
Q106	VS2SC945LP/-1	ALC Amplifier	AC
Q107	VS2SC945LP/-1	ALC Amplifier	AC
Q108	VS2SC945LP/-1	Line Amplifier	AC
Q109	VS2SC945LP/-1	Line Amplifier	AC
Q110	VS2SC945LP/-1	Line Amplifier	AC
Q111	VS2SC945LP/-1	Line Amplifier	AC
Q112	VS2SC458-C/-1	Bias Oscillation	AF
Q201	VS2SC945LQ/-1	Crosstalk Amp.	AC
Q202	VS2SC945LQ/-1	Crosstalk Amp.	AC
Q203	VS2SD468-C/-1	Ripple Filter	AE
Q301	VS2SC945LP/-1	APSS, Limiter Amp.	AC
Q302	VS2SC945LP/-1	APSS, Limiter Amp.	AC
Q303	VS2SC945LP/-1	APSS, Level Comparison	AC
Q304	VS2SC945LP/-1	APSS, Level Comparison	AC
Q305	VS2SA733///-1	APSS, Differential Circuit	AD
Q307	VS2SD468-C/-1	APSS, Solenoid Switching	AE
Q308	VS2SC945LQ/-1	APSS, Indicator Switching	AC
Q309	VS2SC945-K/-1	Differential Amp.	AD
Q310	VS2SC945-K/-1	Differential Amp.	AD
Q311	VS2SC945LQ/-1	Auto Stop Switching	AC
Q312	VS2SC945LQ/-1	Multivibrator	AC
Q313	VS2SC945-K/-1	Multivibrator	AD
	INTEGRATED CIRCUIT		
IC1	RH-IX1021AFZZ	FM MPX	AM
IC201, IC202	RH-IX1020AFZZ	Audio Amplifier	AM
	DIODES		
D1	VHD1S2076//-1	Static Protector	AG
D2	VHD1S2076//-1	Static Protector	AG
D3	VHC1S2790-Y-1	FM AFC	AD
D4	VHVHV46-G//-1	Bias Stabilizer	AD
D5	VHD1N34A///-1	LW/MW Detector	AC
D6	VHD1N60////-3	FM Detector (Matched Pair)	AH
D7	VHD1N60////-3	FM Detector (Matched Pair)	AH
D8	VHD1N34A///-1	AM Tuning Indicator Detector	AC
D9	VHD1N34A///-1	AM Over Load	AC
D10	VHPREDLIT503F	FM Stereo Indicator	AD
D11	VHD1S2076//-1	FM Overload	AG
D101	VHD1S2076//-1	ALC Time Constant	AG
D102	VHD1S2076//-1	APSS Muting	AG
D103	VHD1S2076//-1	APSS Muting	AG
D104	VHD1N34A///-1	ALC Detector	AC
D105	VHD1N34A///-1	ALC Detector	AC
D106	VHD1N34A///-1	ALC Detector	AC
D107	VHD1N34A///-1	ALC Detector	AC
D108	VHD1N60////-3	ALC Bias (Matched Pair)	AH
D109	VHD1N60////-3	ALC Bias (Matched Pair)	AH
D201	VHEHZ6-B///1F	Voltage Stabilizer	AE
D202	RH-DX1006AFZZ	Rectifier	AC
D203	RH-DX1006AFZZ	Rectifier	AC
D204	RH-DX1006AFZZ	Rectifier	AC
D205	RH-DX1006AFZZ	Rectifier	AC
D301	VHD1N34A///-1	Voltage Doubling Rectifier	AC
D302	VHD1N34A///-1	Voltage Doubling Rectifier	AC
D303	RH-DX1005AFZZ	Counter Voltage Protector	AC
D304	VHD1N34A///-1	Auto Stop Trigger	AC
D306	VHEHZ5-B///-1	Voltage Stabilizer	AD
	COILS		
L1	RCILC0019AFZZ	FM Antenna	AA
L2	RCILC0018AFZZ	FM Antenna	AA
L3	RCILC0018AFZZ	Choke	AA
L4	RCILR0112AFZZ	FM RF	AA
L5	RCILR0112AFZZ	FM RF	AA
L6	RCILC0030AFZZ	FM Emitter Choke	AC
L7	RCILR0118AFZZ	FM Oscillator	AA
L8	RCILR0118AFZZ	FM Oscillator	AA
L9, L10	RCILA0353AFLA	LW Antenna MW Antenna	AK
L11	RCILB0292AFZZ	MW Oscillator	AD
L12	RCILB0353AFZZ	LW Oscillator	AD
L13	RCILF0014AGZZ	Choke	AC
L14	RCILM0006AFZZ	19kHz MPX	AF
L15	RCILM0007AFZZ	38kHz MPX	AF
L104	RCILB0374AFZZ	Bias Oscillation	AF
L105	RCILB0376AFZZ	Bias Step-up	AE
L201	RCILF0014AGZZ	Choke (Noise)	AC
	FILTER		
FL1	RFILF0009AFZZ	10.7MHz, 2nd IF	AE
	TRANSFORMERS		
T1	RCILI0157AFZZ	FM 1st IF	AE
T2	RCILI0157AFZZ	FM 2nd IF	AE

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
T3	RCILI0157AFZZ	FM 3rd IF	AE
T4	RCILI0185AFZZ	FM Discriminator	AE
T5	RCILI0182AFZZ	FM Discriminator	AE
T6	RCILI0154AFZZ	AM 1st IF	AD
T7	RCILI0179AFZZ	AM 2nd IF	AD
T8	RCILI0170AFZZ	AM 3rd IF	AD
T101	RTRNI0065AFZZ	Recording	AF
T102	RTRNI0065AFZZ	Recording	AF
T201	RTRNP0433AFZZ	Power (H)	AU
	RTRNP0441AFZZ	Power (E)	AV
PACKAGED CIRCUITS			
M1	RMPTA0102AFZZ	455kHz Detector Filter	AC
M2, M3	RMPTA0064AFZZ	MPX 38kHz Filter	AE
HALL ELEMENT			
	RH-MX0001AFZZ	Auto Stop Sensing	AH
CONTROLS			
VC1, VC2, VC3, VC4, TC1, TC2, TC4, TC5	RVC-R0053AFZZ	Variable Capacitors, Tuning with Trimmers TC1: FM RF Trimmer TC2: FM Oscillator Trimmer TC4: LW Antenna Trimmer TC5: MW Antenna Trimmer	AQ
TC3, TC6	RTO-H2033AGZZ	Trimmer Capacitor TC3: MW Oscillator Trimmer TC6: LW Oscillator Trimmer	AE
VR101	RVR-M0008AFZZ	1K ohm (B), Bias Current Adjust	AC
VR102	RVR-M0061AGZZ	3K ohm (B), Bias Current Balance	AC
VR201A, B	RVR-A0109AFZZ	5K ohm (A), VOLUME	AN
VR202A, B	RVR-A0110AFZZ	10K ohm (A), TONE	AK
CAPACITORS			
(Unless otherwise specified capacitors are 50V, ±20%, Mylar Type)			
C1	VCKSPU2GL221M	220PF, 400V (AC), +20 −20%, Ceramic	AD
C2	VCCSPU1HL5R0C	5PF, 50V, +0.25PF −0.25PF, Ceramic	AA
C3	VCCSPU1HL8R0C	8PF, 50V, +0.25PF −0.25PF, Ceramic	AA
C4	VCCSPU1HL5R0C	5PF, 50V, +0.25PF −0.25PF, Ceramic	AA
C5	VCKZPU1HF222Z	.0022MFD, 50V, +80 −20%, Ceramic	AA
C6	VCKZPU1HF222Z	.0022MFD, 50V, +80 −20%, Ceramic	AA
C9	VCCSPU1HL180J	18PF, 50V, +5 −5%, Ceramic	AA
C10	VCKYPU1HB222M	.0022MFD, 50V, +20 −20%, Ceramic	AA
C12	VCCSPU1HL6R0C	6PF, 50V, +0.25PF −0.25PF, Ceramic	AA
C13	VCCCPU1HH2R0C	2PF(CH), 50V, +0.25PF −0.25PF, Ceramic	AB
C14	VCCSBU1HL101J	100PF, 50V, +5 −5%, Ceramic	AA
C15	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C16	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C17	VCKYPU1HB103M	.01MFD, 50V, +20 −20%, Ceramic	AB
C18	VCCCPU1HH150J	15PF(CH), 50V, +5 −5%, Ceramic	AB
C21	VCCTPU1HH8R0D	8PF(TH), 50V, +.5 −.5%, Ceramic	AA
C22	VCCTPU1HH180J	18PF (TH), 50V, +5 −5%, Ceramic	AB
C23	VCKYPU1HB103M	.01MFD, 50V, +20 −20%, Ceramic	AB
C25	VCQYKU1HM223M	.022MFD	AB
C26	VCQYKU1HM103M	.01MFD	AB
C27	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C28	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C29	VCCSBU1HL151J	150PF, 50V, +5 −5%, Ceramic	AA
C30	VCKYPU1HB223M	.022MFD, 50V, +20 −20%, Ceramic	AA
C31	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C33	VCCSPU1HLR50C	.5PF, 50V, +0.25PF −0.25PF, Ceramic	AB
C34	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C35	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C36	VCKYPU1HB222M	.0022MFD, 50V, +20 −20%, Ceramic	AA
C37	VCCSPU1HLR50C	.5PF, 50V, +0.25PF −0.25PF, Ceramic	AB
C38	VCCSPU1HL2R0C	2PF, 50V, +0.25PF −0.25PF, Ceramic	AA
C39	VCKYPU1HB223M	.022MFD, 50V, +20 −20%, Ceramic	AA
C41	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C43	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C44	VCCSBU1HL331J	330PF, 50V, +5 −5%, Ceramic	AA
C45	VCCSPU1HL1R0C	1PF, 50V, +0.25PF −0.25PF, Ceramic	AA
C46	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C47	VCQYKU1HM103M	.01MFD	AB
C48	VCKYPU1HB103M	.01MFD, 50V, +20 −20%, Ceramic	AB
C49	VCCSBU1HL151J	150PF, 50V, +5 −5%, Ceramic	AA
C51	VCCSBU1HL331J	330PF, 50V, +5 −5%, Ceramic	AA
C52	VCCSBU1HL331J	330PF, 50V, +5 −5%, Ceramic	AA
C55	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C61	VCCSPU1HL470J	47PF, 50V, +5 −5%, Ceramic	AA
C63	VCCSPU1HL5R0C	5PF, 50V, +0.25PF −0.25PF, Ceramic	AA
C65	VCKYPU1HB223M	.022MFD, 50V, +20 −20%, Ceramic	AA
C66	VCQYKU1HM333M	.033MFD	AB
C67	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C69	VCCSBU1HL271J	270PF, 50V, +5 −5%, Ceramic	AA
C70	VCCVPU1HK8R0J	8PF (VK), 50V, +5 −5%, Ceramic	AB
C72	VCQYKU1HM223M	.022MFD	AB
C73	VCCSBU1HL221J	220PF, 50V, +5 −5%, Ceramic	AA
C74	VCCSPU1HL150J	15PF, 50V, +5 −5%, Ceramic	AA
C76	VCQYKU1HM473M	.047MFD	AC
C77	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C78	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C81	VCCSBU1HL221J	220PF, 50V, +5 −5%, Ceramic	AA
C82	VCQSMU1ES103J	10000PF, 25V, +5 −5%, Styrol	AB
C83	VCQSMU1HS222J	2200PF, 50V, +5 −5%, Styrol	AB
C84	VCQYKU1HM153M	.015MFD	AB
C88	VCQYKU1HM682M	.0068MFD	AB
C89	VCQYKU1HM682M	.0068MFD	AB
C93	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C94	VCQSMT1HS151J	150PF, 50V, +5 −5%, Styrol	AB
C104	VCQYKU1HM102K	.001MFD, 50V, +10 −10%, Mylar	AB
C106	VCCSBU1HL221J	220PF, 50V, +5 −5%, Ceramic	AA
C108	VCQYKU1HM333M	.033MFD	AB
C111	VCQYKU1HM102K	.001MFD, 50V, +10 −10%, Mylar	AB
C113	VCCSBU1HL221J	220PF, 50V, +5 −5%, Ceramic	AA
C115	VCQYKU1HM333M	.033MFD	AB

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
C121	VCQYKU1HM102M	.001MFD	AB
C133	VCQYKU1HM153K	.015MFD, 50V, +10 −10%, Mylar	AB
C135	VCQYKU1HM103K	.01MFD, 50V, +10 −10%, Mylar	AB
C136	VCQYKU1HM473K	.047MFD, 50V, +10 −10%. Mylar	AC
C141	VCQYKU1HM102M	.001MFD	AB
C142	VCQYKU1HM102M	.001MFD	AB
C143	VCQYKU1HM102K	.001MFD, 50V, +10 −10%, Mylar	AB
C144	VCQYKU1HM102K	.001MFD, 50V, +10 −10%, Mylar	AB
C148	VCCSBU1HL271J	270PF, 50V, +5 −5%, Ceramic	AA
C149	VCCSBU1HL271J	270PF, 50V, +5 −5%, Ceramic	AA
C150	VCQYKU1HM102M	.001MFD	AB
C151	VCQYKU1HM103K	.01MFD, 50V, +10 −10%, Mylar	AB
C152	VCCSBU1HL680J	68PF, 50V, +5 −5%, Ceramic	AA
C153	VCCSBU1HL680J	68PF, 50V, +5 −5%, Ceramic	AA
C157	VCCSBU1HL681K	680PF, 50V, +10 −10%, Ceramic	AA
C158	VCCSBU1HL681K	680PF, 50V, +10 −10%, Ceramic	AA
C206	VCQYKU1HM223M	.022MFD	AB
C207	VCQYKU1HM223M	.022MFD	AB
C208	VCQYKU1HM682M	.0068MFD	AB
C209	VCQYKU1HM682M	.0068MFD	AB
C218	VCQYKU1HM104M	.1MFD	AC
C219	VCQYKU1HM104M	.1MFD	AC
C222	VCQYKU1HM102K	.001MFD, 50V, +10 −10%, Mylar	AB
C223	VCQYKU1HM102K	.001MFD, 50V, +10 −10%, Mylar	AB
C224	VCQYKU1HM682M	.0068MFD	AB
C225	VCQYKU1HM682M	.0068MFD	AB
C226	VCQYKU1HM104M	.1MFD	AC
C227	VCQYKU1HM104M	.1MFD	AC
C232	VCQYKU1HM153M	.015MFD	AB
C233	VCQYKU1HM472M	.0047MFD	AB
C234	VCQYKU1HM472M	.0047MFD	AB
C237	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C238	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C239	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C240	VCKZPU1HF103Z	.01MFD, 50V, +80 −20%, Ceramic	AA
C301	VCKZPU1HF223Z	.022MFD, 50V, +80 −20%, Ceramic	AA
C312	VCCSPU1HL470J	47PF, 50V, +5 −5%, Ceramic	AA

ELECTROLYTIC CAPACITORS

C24	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C40	VCEAAU1AW107Y	100MFD, 10V, +50 −10%	AB
C42	VCEAAU1AW336Y	33MFD, 10V, +50 −10%	AB
C50	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C53	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C54	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C56	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C80	VCEAAU1EW475R	4.7MFD, 25V, +150 −10%	AB
C85	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C86	VCEAAU1EW335R	3.3MFD, 25V, +150 −10%	AB
C87	VCEAAU1AW336Y	33MFD, 10V, +50 −10%	AB
C90	VCEAAU1AW107Y	100MFD, 10V, +50 −10%	AB
C91	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C92	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C96	VCEAAU1CW336Y	33MFD, 16V, +50 −10%	AC
C101	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C102	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C103	VCEAAU1EW335R	3.3MFD, 25V, +150 −10%	AB
C105	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C107	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C110	VCEAAU1EW335R	3.3MFD, 25V, +150 −10%	AB
C112	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C114	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C117	VCEAAU1AW227Q	220MFD, 10V, +100 −10%	AD
C119	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C120	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C122	VCEAAU0XW337Q	330MFD, 6.3V, +100 −10%	AD
C123	VCEAAU1AW336Q	33MFD, 10V, +100 −10%	AC
C124	VCEAAU1AW227Q	220MFD, 10V, +100 −10%	AD
C125	VCEAAU1AW336Q	33MFD, 10V, +100 −10%	AC
C126	VCEAAU1AW108Q	1000MFD, 10V, +100 −10%	AE
C128	VCEAAU0XW337Q	330MFD, 6.3V, +100 −10%	AD
C129	VCEAAU1AW336Q	33MFD, 10V, +100 −10%	AC
C130	VCEAAU1AW227Q	220MFD, 10V, +100 −10%	AD
C131	VCEAAU1AW336Q	33MFD, 10V, +100 −10%	AC
C134	VCEAAU1AW227Q	220MFD, 10V, +100 −10%	AD
C137	VCEAAU1AW227Q	220MFD, 10V, +100 −10%	AD
C138	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C145	VCEAAU1CW106Q	10MFD, 16V, +100 −10%	AD
C146	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C155	VCEAAU1AW336Q	33MFD, 10V, +100 −10%	AC
C156	VCEAAU1AW336Q	33MFD, 10V, +100 −10%	AC
C201	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C202	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C203	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C204	VCEAAU1HW105R	1MFD, 50V, +150 −10%	AB
C205	VCEAAU1HW105R	1MFD, 50V, +150 −10%	AB
C210	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C211	VCEAAU1CW228Q	2200MFD, 16V, +100 −10%	AG
C212	VCEAAU1HW105R	1MFD, 50V, +150 −10%	AB
C213	VCEAAU1HW105R	1MFD, 50V, +150 −10%	AB
C214	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C215	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C216	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C217	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C220	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C221	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C228	VCEAAU1AW108Q	1000MFD, 10V, +100 −10%	AE
C229	VCEAAU1AW108Q	1000MFD, 10V, +100 −10%	AE
C302	VCEAAU1EW335R	3.3MFD, 25V, +150 −10%	AB
C303	VCEAAU1EW335R	3.3MFD, 25V, +150 −10%	AB
C304	VCEALU1HW106M	10MFD, 50V, +20 −20%	AD
C305	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C307	VCEAAU1AW476Q	47MFD, 10V, +100 −10%	AC
C308	VCEAAU1AW107Q	100MFD, 10V, +100 −10%	AC
C309	VCEAAU1AW336Q	33MFD, 10V, +100 −10%	AC
C310	VCEALU1HW225M	2.2MFD, 50V, +20 −20%	AD
C311	VCEAAU1AW227Q	220MFD, 10V, +100 −10%	AD
C402	VCEAAU1AW108Q	1000MFD, 10V, +100 −10%	AE

RESISTORS

(Unless otherwise specified resistors are 1/4W, ±10%, Carbon Type)

R3	VRD-ST2EY102K	1K ohm	AA
R8	VRD-SU2EY470K	47 ohm	AA
R12	VRD-SU2EY470K	47 ohm	AA
R16	VRD-ST2EY101K	100 ohm	AA
R24	VRD-SU2EY101K	100 ohm	AA
R27	VRD-ST2EY333K	33K ohm	AA
R31	VRD-ST2EY562K	5.6K ohm	AA
R37	VRD-SU2EY105K	1 Meg ohm	AA
R45	VRD-SU2EY471K	470 ohm	AA
R50	VRD-ST2EY183K	18K ohm	AA
R51	VRD-SU2EY152K	1.5K ohm	AA
R54	VRD-SU2EY822K	8.2K ohm	AA
R56	VRD-SU2EY391K	390 ohm	AA
R57	VRD-SU2EY472K	4.7K ohm	AA
R58	VRD-SU2EY472K	4.7K ohm	AA
R61	VRD-ST2EY5R6K	5.6 ohm	AA
R62	VRD-SU2EY392K	3.9K ohm	AA
R63	VRD-SU2EY220K	22 ohm	AA
R64	VRD-SU2EY104K	100K ohm	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
R65	VRD-SU2EY103K	10K ohm	AA
R66	VRD-SU2EY102K	1K ohm	AA
R103	VRD-ST2EY101K	100 ohm	AA
R104	VRD-SU2EY331K	330 ohm	AA
R106	VRD-ST2EY101K	100 ohm	AA
R110	VRD-ST2EY824K	820K ohm	AA
R111	VRD-ST2EY824K	820K ohm	AA
R145	VRD-ST2EY680K	68 ohm	AA
R166	VRD-SU2EY470K	47 ohm	AA
R174	VRD-SU2EY220K	22 ohm	AA
R175	VRD-ST2EY391K	390 ohm	AA
R176	VRD-SU2EY470K	47 ohm	AA
R221	VRD-SU2EY2R2K	2.2 ohm	AA
R222	VRD-SU2EY2R2K	2.2 ohm	AA
R223	VRD-ST2EY151K	150 ohm	AA
R308	VRD-ST2EY472K	4.7K ohm	AA
R314	VRD-ST2EY181K	180 ohm	AA
R320	VRD-SU2EY471K	470 ohm	AA
R321	VRD-SU2EY181K	180 ohm	AA
R322	VRD-SU2EY680K	68 ohm	AA
R323	VRD-SU2EY471K	470 ohm	AA
R324	VRD-ST2EY820K	82 ohm	AA
R326	VRD-SU2EY683K	68K ohm	AA
R328	VRD-ST2EY154K	150K ohm	AA
R331	VRD-SU2EY181K	180 ohm	AA

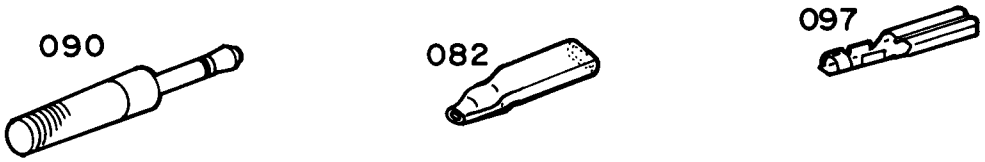
PICTORIAL PARTS

001	DROLR0010AGZZ	Rewind Roller Assembly	AK
002	GCABA0424AFSA	Cabinet, Front	AZ
003	GCABB0415AFSA	Cabinet, Back	AQ
004	GFTAB1092AFSB	Lid, Battery Compartment	AF
005	GFTAC1060AFSA	Lid, Cassette Compartment	AM
006	HDALP0351AFSA	Dial Scale	AH
007	HDAP-0165AFSA	Rail, Pointer	AF
008	HDECA0262AFSB	Decoration, Front	AT
009	HDECQ0052AFSA	Decoration, APSS	AE
010	HDECZ0050AFZZ	Mirror, Cassette Compartment	AA
011	HINDM1061AFSB	Plate, Green	AE
012	HINDM1087AFSA (H) HINDM1094AFSA (E)	Indication Metal, Model Spec.	AD
013	HINDM1092AFSB	Indication Metal, SHARP	AA
014	HSSND0216AFSA	Pointer	AD
015	JBOTN0054AFSA	Push Button Assembly	AU
016	JHNDM1050AFSA	Handle, Diecasting	AL
017	JHNDP1050AFSA	Handle, Plastic	AH
018	JKNBK0156AFSB	Knob, VOLUME, Right Channel	AE
019	JKNBN0159AFSA	Knob, BAND	AD
020	JKNBN0228AFSA	Knob, Tuning	AC
021	JKNBN0293AFSA	Knob, VOLUME, Left Channel	AB
022	JKNBN0301AFSA	Knob, TONE	AE
023	KCOUB0055AFZZ	Counter	AN
024	LANGF0048AFFW	Metal Fittings, Handle	AB
025	LANGK0166AFFW	Bracket, Cassette Holder Lock Lever	AA
026	LANGQ0456AFFW	Bracket, Tuner P.W.B. Retaining	AF
027	LANGR0383AFFW	Bracket, VOLUME/TONE Controls	AC
028	LANGR0384AFFW	Bracket, Power Transformer	AD
029	LANGS0055AFFW	Bracket, Speaker Retaining	AA
030	LANGT0207AGFD	Lever, Cassette Holder	AA
031	LANGT0513AFFW	Bracket, Counter	AC
032	LANGT0533AFFW LANGT0548AFFW	Bracket, Voltage Selector (H) Bracket, Mains Switch (E)	AB AD
033	LANGZ0060AFFW	Bracket, Battery Compartment	AC
034	LBOSG0053AFFW	Boss, Record Connecting Lever	AC
035	LBSHZ0001AF00	Holder, Pilot Lamp	AA

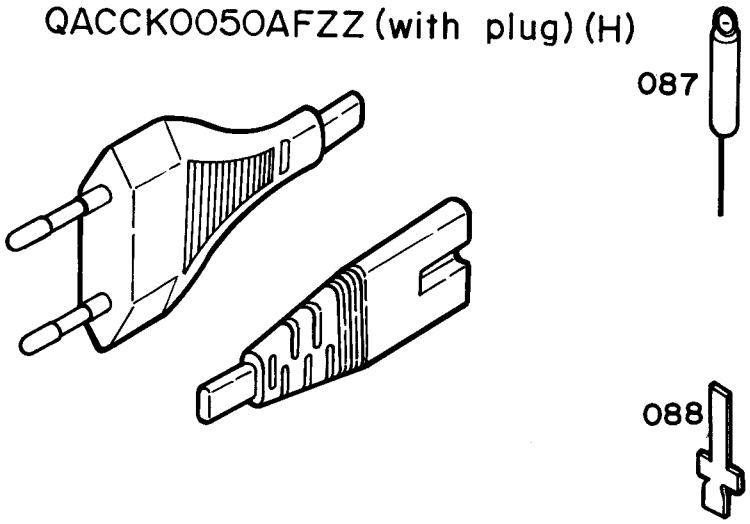
REF. NO.	PART NO.	DESCRIPTION	CODE
036	LHLDA1016AFSC	Holder, Rod Antenna	AB
037	LHLDC1024AGZZ	Holder, Bar Antenna	AA
038	LHLDW3002AFFW	Wire Holder	AA
039	LHLDW3011AGZZ	Wire Holder	AA
040	LHLDZ8055AFZZ	Holder, Built-in Microphone	AB
041	LX-NZ0026AFJB	Nut, EXT SP Jack	AA
042	LX-WZ0007AFFJ	Washer, Handle	AA
043	LX-WZ0018AFFW	Washer, Rod Antenna	AA
044	LX-WZ3017CEFN	Washer, Audio P.W.B.	AA
045	MLEVF0545AFFW	Lever, Record Connecting	AC
046	MLOKC0005AG00	Lever, Cassette Holder Lock	AB
047	MSPRC0011AFZZ	Spring, Dial Cord	AA
048	MSPRC0021AFFN	Battery Spring, Negative Side	AA
049	MSPRD0021AFFJ	Spring, Meter	AB
050	MSPRP0082AGFW	Plate Spring, Cassette Holder	AB
051	MSPRP0107AFFW	Spring, Record Connecting Lever	AB
052	MSPRT0107AGFJ	Spring, Cassette Holder Lever	AA
053	MSPRT0172AGFW	Spring, Cassette Holder Up	AB
054	NBLTK0048AG00	Belt, Drive	AD
055	NBLTK0104AFZZ	Belt, Counter	AC
056	QFSHD1001AGZZ	Holder, Fuse	AB
057	NDAIR0053AGSA	Turntable, Take-up/Supply	AF
058	NDRM-0040AFZZ	Drum, Dial Cord	AB
059	NFLYC0009AGFD	Flywheel Assembly	AL
060	NPLYB0001AFZZ	Pulley, Dial Cord Drive	AB
061	NPLYC0101AFFD	Shaft, Dial Cord Drive Pulley	AA
062	NPLYR0023AGZZ	Slip Roller Assembly	AK
063	NROLV0003AFZZ	Fast Forward Roller Assembly	AG
064	NROLY0003AFZZ	Pinch Roller Assembly	AE
065	NSFTD0046AFFW	Drive Shaft, Dial Cord	AD
066	PCOVM1005AGFA	Washer, Capstan Oil Cut	AA
067	PCOVM7050AFZZ	Cover, Masking	AA
068	PCOVW3106AFZZ	Cover, Mains Supply Socket	AD
069	PCUSG0023AF00	Cushion, Cassette Holder	AB
070	PCUSU0092AG00	Cushion, Battery Compartment Lid	AA
071	PCUSU0128AFZZ	Cushion, Coils (L4, L5, L7, L8)	AA
072	PFLT-0130AG00	Felt, Cassette Holder	AA
073	PFLT-0264AF00	Felt, MODE/FUNCTION/TAPE Switches	AA
074	PFLT-0274AF00	Felt, Speakers	AA
075	PITOT0305AF00	Dial String	–
076	PREFL0055AFZZ	Reflector	AA
077	PCUSS0071AF00	Cushion, Rubber, 10 x 15 x 18mm	AB
078	PSPAI0106AFZZ	Spacer, Spring Terminal	AA
079	PSPAV0052AFZZ	Tube, L.E.D.	AA
080	PTPEC0005AG00	Ribbon, Battery Removing	AA
081	PZETV0050AFZZ	Insulator, Mains Switch (E)	AA
082	PZETV0007TAZZ	Cover, Tip, See Figure 35	AA
083	QACCK0050AFZZ QACCB0003AGOV	Mains Supply Cord (H) Mains Supply Cord (E) } See Figure 35	AM AL
084	QANTR0101AFZZ	Rod Antenna	AN
085	LBOSD0050AFFW	Boss, Insert (E)	–
086	QHWS-3001AGFN	Lug Terminal, Ground	AA
087	QLUGP0105AGZZ	Lug Terminal, See Figure 35	AA
088	QLUGP9001AFFN	Lug Terminal, See Figure 35	AA
090	QPLGS0103AGZZ	Plug, Erasing, See Figure 35	AE
091	QPRBF0063AFZZ	Printed Circuit Board, Tuner	AR
092	QPRBF0065AFZZ	Printed Circuit Board, Audio Amp.	AX
093	QPWBF0458AFZZ	Printed Circuit Board, L.E.D.	AA
094	QPWBF0459AFZZ	Printed Circuit Board, Mains Supply	AA
095	QPWBF0460AFZZ	Printed Circuit Board, Hall Element	AA
096	QTANB012ZAGZZ	Battery Terminal, Positive Side	AB
097	QTIPF0001CEYW	Tip, See Figure 35	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
098	RHEDA0053AFZZ	Head, Erase	AK
099	RHEDH0052AFZZ	Head, Record/Playback	AW
100	RMICC0057AFZZ	Built-in Microphone	AK
101	RMOTM0035AGZZ	Motor	AX
102	LX-WZ7052AFZZ	Retainer, Lead Wire (Rod Antenna)	AA
103	QPRBF0066AFZZ	Printed Circuit Board, Controls	AD
104	PFLT-0128AF00	Felt, 90 x 10 x 0.5mm	AA
121	LCHSM0221AFZZ	Mechanism Chassis	AT
122	LCHSS0106AFZZ	Sub-chassis	AH
123	MLEVF0536AFZZ	Lever, Over Stroke absorbing	AH
124	MLEVF0308AGFD	Lever, Erase Proof	AD
125	MLEVF0537AFZZ	Stop Lever Assembly	AF
126	MLEVF0270AGZZ	Lever, Fast Forward Roller Assembly	AE
127	MLEVF0538AFFD	Lever, Record Connecting	AC
128	MLEVF0457AGFD	Lever, Brake	AB
129	MLEVF0585AFFD	Lever, Operation	AD
130	MLEVF0584AFFD	Lever, Fast Forward	AB
131	MLEVF0459AGFD	Lever, Pause Operation	AB
132	MLEVF0539AFZZ	Lever, APSS Operation	AE
133	MLEVF0540AFZZ	Lever, APSS Key Release	AC
134	MLEVF0542AFZZ	Lever, Pause Operation	AE
135	MLEVF0543AFFD	Lever, APSS Switch Operation	AB
136	LANGF0330AFZZ	Bracket, Solenoid	AH
137	LANGT0172AGFD	Bracket, Motor	AC
138	NROLM0008AGZZ	Roller, Sub Chassis Slide	AB
139	NBALS0004AGFJ	Ball, ϕ3	AA
140	LX-BZ0107AGZZ	Screw, Flywheel Thrust Adjust	AB
141	PSPAA0001AGFJ	Spacer, Motor	AB
142	LSLVM0018AGFW	Sleeve, Fast Forward Lever	AB
143	LANGT0511AFFW	Bracket, Flywheel	AF
144	LANGT0512AFFW	Bracket, Audio P.W. Board	AE
145	MSPRC0031AGMN	Spring, R/P Head Adjust	AA
146	MSPRT0161AGFJ	Spring, Erase Proof Lever	AA
147	MSPRD0035AGFJ	Spring, Slip Roller Lever	AB
148	MSPRP0123AFFW	Spring, 3ϕ Ball Hold	AC
149	MSPRP0111AFFW	Spring, Cassette Retaining	AB
150	MSPRT0322AFFJ	Spring, Pinch Roller Lever	AA
151	MSPRT0323AFFJ	Spring, Fast Forward Roller Lever	AA
152	MSPRT0324AFFJ	Spring, Fast Forward Roller Lever	AA
153	MSPRT0105AGFJ	Spring, Rewind Roller Lever	AB
154	MSPRT0325AFFJ	Spring, Sub Chassis Return	AA
155	MSPRT0326AFFJ	Spring, Auto Stop Lever	AA
156	MSPRT0135AGFJ	Spring, Auto Stop Lever	AA
157	MSPRC0102AFFJ	Spring, Over Stroke Absorbing Lever	AB
158	MSPRT0327AFFJ	Spring, APSS Operation Lever	AA
159	MSPRT0328AFFJ	Spring, Solenoid Bracket Lever	AA
160	LBSHS0001AG00	Cushion, Motor, Rubber	AA
161	PCUSG0015AG00	Cushion, Motor, Rubber	AA
162	PFLT-0151AG00	Felt, Masking	AA
163	PZETF0029AGZZ	Insulator, Switch (SW-8)	AA
164	LHLDW3007AGFD	Wire Holder	AA
165	LHLDW3003AFFW	Wire Holder	AA
166	LX-BZ0091AGFD	Guide Shaft, Operation Lever	AB
167	LX-BZ0148AGFD	Screw, Motor Retaining	AA
168	LX-NZ0012AGFD	Nut, Brake Lever	AB
F1	QFS-C102CAGNI	Fuse, 1AT	AE
J3,4	QJAKA0026AGS	Jack, EXT SP (4 Ω)	AB
J2	QJAKC0007AGZZ	Jack, DC 9V	AE
J1A ~ D, SW12	QJAKH0056AF00	Jack, MIC-R/MIC-L/REM/PHONES Switch, RIF	AP
SO1	QSOCA0255AFZZ	Socket, Mains Supply	AF
SO2	QSOCD2554AFZZ	Socket, Record/Playback	AF
SO3	QSOCE0551AFZZ	Socket, VOLTAGE (H)	AG
SW3 A~H	QSW-B0066AFZZ	Switch, FUNCTION	AL
SW5 A~C	QSW-B0067AFZZ	Switch, MODE	AK
SW4 B,F	QSW-B0075AFZZ	Switch, TAPE	AK
SW8	QSW-F0044AGZZ	Switch, Main	AE
SW10	QSW-F0102AFZZ	Switch, Pause	AD
SW9	QSW-F0104AFZZ	Switch, APSS	AD
SW11	QSW-F0105AFZZ	Switch, Playback	AD
SW1 A~J	QSW-R0130AFZZ	Switch, BAND	AP
SW2 A~N	QSW-S0089AGZZ	Switch, Record/Playback	AP
SW13	QSW-S0176AFZZ	Switch, Mains (E)	AN
PL1	PLMPM0020AFZZ	Pilot Lamp	AE
ME1	RMTRE0058AFZZ	Meter	AR
SOL 301	RPLU-0052AFZZ	Solenoid	AN
	RTPEK0056AFZZ	Cassette Tape	AL
SP1, SP2	VSP0010P-254A	Speaker	AW
SW6	Not Available	Part of SO2	
SW7	Not Available	Part of SO1	
SW12	Not Available	Part of J1	



083 QACCK0050AFZZ (with plug) (H)



083 QACCB0003AGOV (without plug) (E)

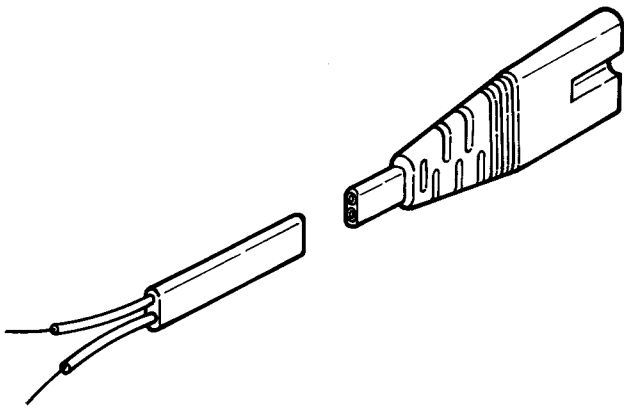


Figure 35